PAUL HAWKEN: "WE'RE IN A 1920s ECONOMY," p. 4

WHOLE EARTH Review

ACCESS TO TOOLS AND IDEAS

NO. 48 FALL 1985 $4.50 (CANADIAN $5.50)

This lady in L.A. was in a hurry to dry her wet, shivering poodle so she put him into the microwave oven, and then . . .

M. Wuerker

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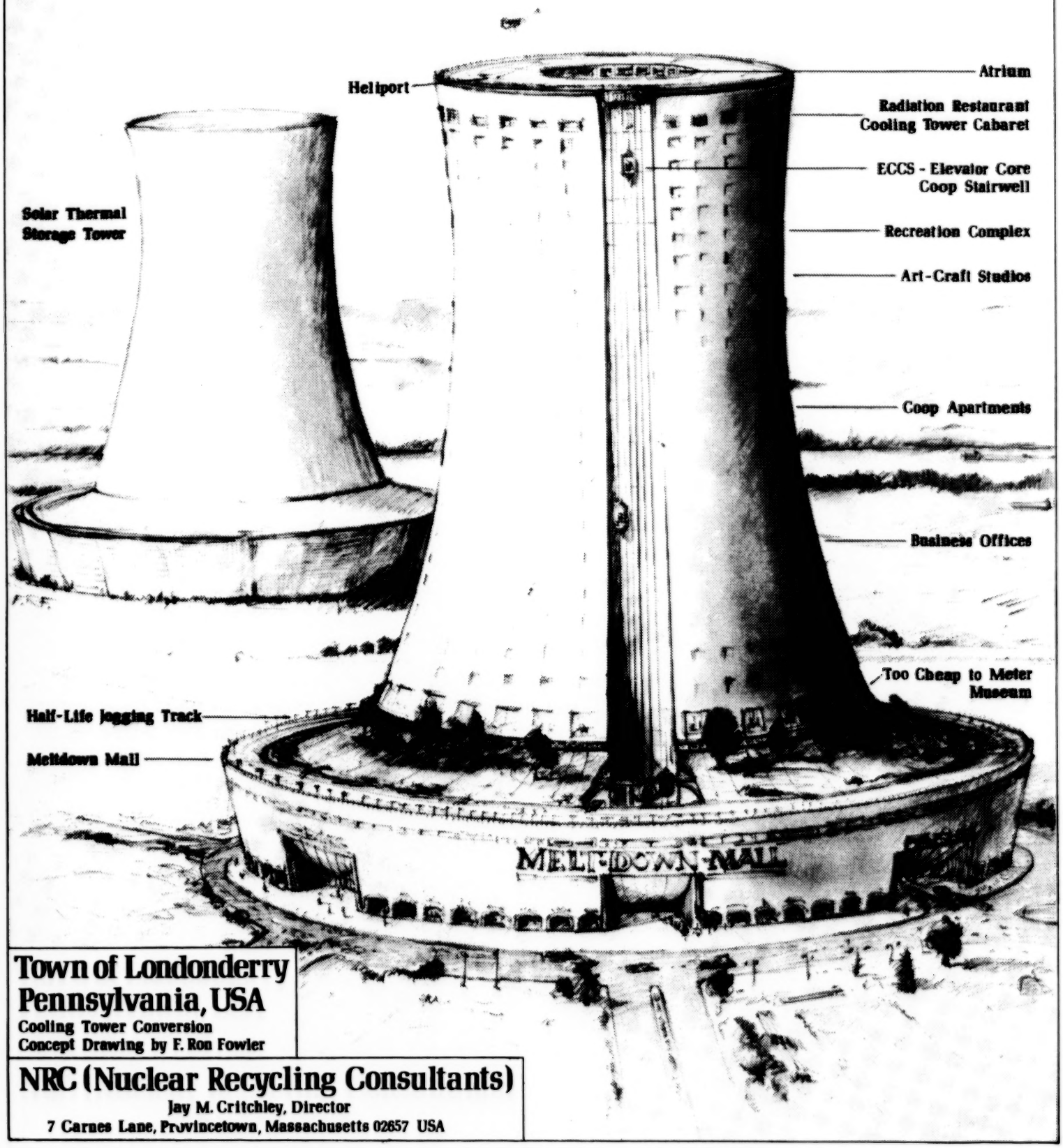
Three Mile Island Historic Nuclear Park and Planned Community

-A Symbol of National Pride



Town of Londonderry
Pennsylvania, USA
Cooling Tower Conversion
Concept Drawing by F. Ron Fowler

NRC (Nuclear Recycling Consultants)
Jay M. Critchley, Director
7 Carnes Lane, Provincetown, Massachusetts 02657 USA

This image is available as a poster (18" x 23", glossy paper) for $12 postpaid from Jay M. Critchley, Nuclear Recycling Consultants, 7 Carnes Lane, Provincetown, MA 02657.

by Jay M. Critchley

A Public Proposal:
Three Mile Island Historic Nuclear Park and Planned Community

The NRC (Nuclear Recycling Consultants) has recently been established to convert facilities and sites of the entire nuclear fuel cycle worldwide to productive community use. With a number of nuclear plants reaching "mothball" age, partially developed sites being abandoned, and national awareness of the expense and danger of nuclear energy increasing, the NRC has selected Three Mile Island for its first conversion project.

The entire site would be listed in the National Register of Historic Places. TMI, we believe, meets the select criteria for inclusion in the Register: structures, buildings, or sites "that are associated with events that have made a significant contribution to the broad patterns of our history." The initial step in the National Register process has been taken with the filing of the Pennsylvania Historic Resource Survey Form with the Bureau for Historic Preservation (Pennsylvania).

One of the goals of the site conversion is to preserve as many of the structures as possible, especially those directly connected to the nuclear fuel process. Although the physical location of community services and facilities will be determined by the TMI Planning Task Force, the following initial ideas/suggestions are proposed:

- Cooling Towers — a unique mix of living, working, shopping, and recreation facilities, including:
- Meltdown Mall, a circle of retail shops with parking at the base of the tower and with an open, landscaped walkway.
- Half-Life Jogging Track on the roof of the mall.
- A recreation complex including the B-29 Bomber Weight Room (gym), the Fuel Rod Pool (sauna), and the Yellowcake Massage Room.
- Radiation Restaurant, Cooling Tower Cabaret, and the BTU Bar, overlooking the Susquehanna River and countryside.
- Enrico Fermi Breeder Clinic and Research Center — with the Atom and Eve Family Planning Clinic.
- Seabrook Library/Enrichment Center.
- Too Cheap to Meter Museum and Gallery — a hands-on educational and historical look at the political and cultural dynamics of the nuclear age and its heritage.

The development of such a large undertaking obviously will require extensive planning and cooperation among local, state, and federal officials. The NRC (Nuclear Recycling Consultants) will act as a catalyst and initial coordinator for the project until staff are hired. It will initiate conversion projects at other sites around the country, furthering its goal of preserving, converting, and living with our nuclear heritage.

Citizens with a wide variety of skills are needed, including architects, artists, planners, community organizers, activists, and interested people in general. We are eager to assist towns, utilities, safe energy, peace, and community groups and individuals at other nuclear sites in developing positive, creative strategies and proposals for conversion projects.

For further information, send a self-addressed, stamped envelope to: Jay M. Critchley, Nuclear Recyling Consultants, 7 Carnes Lane, Provincetown, MA 02657. ■

WHOLE EARTH Review

COVER *"This lady from L.A. is given a microwave oven as a gift. She's accustomed to drying her poodle off after his bath by putting him in her conventional oven, turned on low. One day when she's in a hurry she sticks her wet dog in the new microwave oven. The poodle explodes, and the lady sues the microwave manufacturer." That story, along with other versions (it's a cat, the pet is wet from the rain, it's cooked from the inside out and its eyeballs pop out, or it's put in a washing machine or clothes dryer) has been retold and reported in newspapers — though it has no clear foundation in fact — since 1978; its theme (foolishly putting a live animal in a major kitchen appliance) dates back at least 20 years.*

According to folklorist Jan Harold Brunvand, these specious "news items" circulate in abundance. *See page 124 for more.* *—Kevin Kelly*

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WE'RE IN A 1920s ECONOMY

INTERVIEW WITH PAUL HAWKEN

Paul Hawken is best known nationally for his book of year before last,* The Next Economy, *($4.50 postpaid from Ballantine Books, 400 Hahn Rd., Westminster, MD 21157; 800/638-6460). The gist of the book is that the U.S. and the world are in a wrenching transition from a "mass economy" driven by intelligence. That book came out of a series of articles in this magazine, the most popular we've ever run, judging by mail and reader surveys. When the book came out, Paul shut up on the subject for a couple years. With this article, he's back.

As noted in a cover story about Hawken in* INC. *magazine, as well as a positively fawning piece in* ESQUIRE, *the unusual thing about this economist is that he's primarily a businessman, a shockingly successful one, and he runs his business according to the principles of his economic theory. More about that on p. 10. And who is the probing interviewer for* Whole Earth Review? *Paul Hawken, in a solo duet. — *Stewart Brand*

WHOLE EARTH REVIEW: IN 1980 AND 1981, YOU SEEMED TO be more pessimistic than optimistic about the economy. On the one hand you predicted that we were going through a healthy economic change, on the other you warned of some type of deflationary crisis or credit collapse. Since then, the economy has gone through two spectacular years in terms of GNP growth and is continuing to grow. Do you still foresee the same kind of danger, or have we outgrown some of those problems?

PAUL HAWKEN: I THINK IT IS IMPORTANT TO STATE that no one can forecast future economic activity accurately. Neils Bohr said, "you could forecast anything but the future." What fascinates me is human behavior, particularly with respect to the economy, because certain types of behavior do have consequences and these can be at least revealing of our common destiny. I think there are certain times when a large sector of society just "packs it in" when it comes to common sense, refuses to see the obvious, and determinedly clings to mutually agreed-upon illusions. I think we are in such a time. There are those who would say that this *is* the human condition, that the present is always this way, but I see it rather differently. I think our collective awareness of our immediate environment, whether it be human, natural, or economic, expands and contracts, widens and narrows, opens up and sometimes pulls back. So, rather than observing or discussing the economy in terms of measurements and indices, I think it is more fruitful and comprehensible to discuss it in terms of behavior, something most of us understand pretty well.

WER: So, how are we behaving?

PH: Oddly. But it is too early to tell whether it is in our long-term best interest. The best parallel to modern economic activity is definitely the 1920s. Saying that, it sounds as if I am tipping my hand as to what will happen in the future, but I am not holding any hand at all. In the 1920s, there was a five- or six-year period of frothy economic activity leading up to the crash. It was undergirded by a society that has striking similarities to our own.

WER: Do you refer to speculative behavior?

PH: No, not just that. Speculation was certainly present then as now, but that is too obvious. First, there was a large underground economy. In

both periods, it was fed by illicit "drugs" — in the 1920s it was alcohol, in the 1980s cocaine and marijuana. During both periods, it became fashionable to flaunt the prohibitory laws, especially amongst the rich and famous. Second, during that period, there was tremendous pressure to appear that you were doing very well economically. People got deeply into debt in order to wear the right clothes, drive the right cars, etc. This led to a number of banking and other fiduciary scandals involving "upright" pillar-posts of the community. Charles Stewart Mott's Union Industrial Bank of Flint, Michigan, was embezzled by virtually most of his senior staff. Today, we have Jake Butcher being sentenced to 14 years, and Penn Square, a one-branch bank in an Oklahoma shopping center, coming close to toppling the banking system in this country. Third, while the American economy was supposedly booming, other countries were not faring so well, particularly in Europe. The dollar was very strong and gold was being drained from European treasuries to the U.S. Recent U.S. deficits have been heavily financed by foreign money, making the U.S. a debtor nation for the first time since WWI. Fourth, despite the booming times in the 1920s, tens of thousands of people would flock to Ford's River Rouge plant for work whenever Ford hired. Similarly, there are many jobless now and similar offerings in the Midwest have drawn thousands of applicants during the past few years. Fifth, union membership, then and now, declined. Sixth, in the 1920s, stock "pools" formed to drive the price of a stock up or down in order to make quick short-term profits. Today, we have Boone Pickens practicing greenmail; in the 1920s we had Jesse Livermore swooping down and "raiding" the market, receiving unfavorable publicity, and netting millions. Seventh, sloganeering, the type uttered by President Reagan, was equally popular then: "Be a Bull on America" and "Never Sell the United States Short" were two frequently heard. From the Summer Olympics to Miller Beer ads, you see a similar strident patriotism today. Other examples: scores of "New Age" religious cults sprang up, particularly in California; newsmen were being paid off to tout stocks, as recently occurred at the *Wall Street Journal;* there were strident cries for protectionism, particularly in the farm belt as crop prices fell and farmers had difficulty making land payments; bad loans to South American countries were packaged and sold to unwitting investors as bonds (today they are sold off to unwitting banks); and there was a polarization of the rich and poor as has been abetted by President Reagan's tax programs. (In the late twenties the number of people considered under the poverty line was growing just as it has during the past four years.) I could go on and on.

What happened in the 1920s was that the economy went "out of true," to quote Jesse Livermore. The question is whether people went out of true first, thereby allowing the economy to follow, or whether it was the reverse. Whichever is the case, the same can be said about the United States and world economies today. They are strongly out of kilter, on an eccentric orbit if you will, and portend far-reaching effects in the immediate and distant future. The "trueness" that the economy and people have lost is the sense that real economic growth is achieved by effort rather than shrewdness, creativity rather than cleverness. Horizons have shrunk; people do not think out ten or twenty years, but one year at the most. There is not so much a concern for real economic growth as there is for economic gain. Everyone benefits in growth, but gain by itself produces losers. Thus there is a disconnectedness to present economic behavior, a randomness that is soothed by the mellifluousness of our President and other economic "winners."

WER: Are you just like other "liberals" who find it difficult to accept that President Reagan has been the architect of the strongest economic recovery since the war?

PH: Maybe, but what I would like to see happen is to have the economy taken off the liberal/conservative playing field. The recovery since 1982 has to be broken down into at least two segments. First, there *is* strong economic growth in this

"IN THE 1920s, there was a five- or six-year period of frothy economic activity leading up to the crash. It was undergirded by a society that has striking similarities to our own."

> ***"THE 'TRUENESS' that the economy and people have lost is the sense that real economic growth is achieved by effort rather than shrewdness, creativity rather than cleverness."***

country. The 1980-82 recession was ended not by Reagan but by Volcker and the Federal Reserve. Volcker was responding to the default of Mexico on its loans when he greatly loosened the Fed's grip on the money supply in August 1982. He was trying to avoid a worldwide banking disaster and currency crisis. He succeeded, but I doubt he intended to ignite the stock market and send it to record highs. The companies that are truly growing in this economy would have continued to grow regardless of Reagan's tax policy or rhetoric. True growth companies grow because they respond to conditions on the bottom of the economy, not because conditions change in Washington. The other part of the recovery represents the stimulation given to the economy by the massive tax cuts and deficit spending created by Reagan's budgets. The gigantic rise in the deficit, an increase in four years comparable to the first 200 years of the republic, is a gigantic lien on the future, propped up on the short term by a massive influx of foreign capital because of high interest rates. This kind of growth is smoke and mirrors. It is like charging a fur coat on a credit card when you are penniless. The United States is certainly not penniless, but we do not need this second kind of growth because it represents a debt rather than a new asset. In this respect, Reagan can be seen as the most over-achieving Keynesian the government has ever seen. But that would be a slap in Keynes' face because true Keynesian policy would have us balancing the budget during growth in order to create reserves for deficit spending during the next recession. Reagan's economic programs are eating the seed corn, so to speak. From what source will we derive funding for the next recessionary period? No one is asking that question.

WER: Are you concerned about the federal deficit's effect on the future growth of the economy?

PH: Ironically, no. If it was just a federal debt that was around our neck, we could handle it. But the hypocritical enlargement of debt by an administration that vigorously eschewed it has somehow sanctified debt to a degree that has not existed since the "call money" days of the 1920s. It is not federal debt that should concern us, but our own.

We started this decade with overly high indebtedness incurred during the inflationary seventies. It made sense to borrow then because interest rates were below inflation rates. You could hardly lose if you were buying hard assets. Today, inflation is nil, but debt is growing at an even faster pace, far outstripping real income. Whether it is leveraged buy-outs, junk-bond financed takeovers, or consumer debt, the drive to achieve short-term satisfaction is lowering the credit rating of the entire country. Such reliance is in fact an attempt to buy what is unaffordable. Junk-bonds, issued at 14 and 15 percent in order to finance takeovers, are sold to savings and loan institutions in California that are trying to cover fixed-rate mortgages on overpriced houses that were unaffordable to begin with. Ted Turner cannot afford to buy CBS any more than Americans can continue to spend 30 to 40 percent of their income on mortgages and installment loans.

WER: Yes, but people are always warning about debt. So what if we owe a lot to each other. Does it make any difference? Those who have warned about high indebtedness in the past sound faint and wrong today.

PH: Debt is only a problem if the underlying assets do not cover principal, and/or if a sharp recession causes debtors to withhold payments to creditors, resulting in sales of assets, reduction in demand of goods, plant closures, and layoffs of employees. If the system is stuffed with too much debt, a correction might go much too far before obligations were met and creditors satisfied. In the period between 1929 and 1933, debts declined only 20 percent. But during that same period, the value of underlying assets and the price of goods fell 75 percent. So after the first four years of the Depression, debt had not been

reduced, it had increased by over 40 percent. This is the deflationary trap, something nations and economies want to avoid if at all possible.

My concern is not just whether this will or will not happen. My real concern is that this condition reveals a behavioral milieu in which individual activity, carried out in one's own self-interest, may result in damage to the whole down the road — Hardin's tragedy of the commons on a monetary scale. The tragedy of the commons is not that the sheep feeding thereon become mangy and sickly, or that the meadow's ecosystem is seriously damaged — the real tragedy is that the townsfolk get caught in a behavioral syndrome that prohibits them from perceiving their interconnectedness.

WER: How is "interconnectedness" important here? Most economic behavior seems atomistic at best, if not downright selfish. We are supposedly in the age of the entrepreneur, the person who breaks from the mold to create his or her own identity and fortune.

PH: The twenties were also a time when the entrepreneur blossomed and the self-made millionaire was ogled by the masses and pestered by the media. Regardless of the Depression, the late twenties and early thirties were a time of rapid economic restructuring. New industries and technologies were being introduced in rapid-fire order, and this kind of sudden reshuffling of the economic deck produces entrepreneurs. But here we come to the crux of the matter. The entrepreneur is highly connected. Opportunity comes from confusion and uncertainty. It is when there is a breaking apart of the traditional economic bonds that the entrepreneur flourishes. Entrepreneurs are connected to the dynamics of change, usually ahead of their social peer group. They are anticipatory in their ability to create products and services. Society, on the other hand, becomes disconnected during this same period and acts strangely. The described behavior during the twenties and today has been associated with the "downwave" by those who believe in Kondratieff-type long waves. Those who believe in 50- or 60-year cycles of economic growth and decay all think that we are hitting or are going to hit the trough of this long wave.

Remember I said earlier that we were behaving oddly but it was too soon to tell whether it was in our own best interest. In other words, there is a type of coevolution, economically speaking, between the willingness of the society to overspend, take on too much credit, overbuild, participate in "uneconomic" behavior, and the underlying dynamics associated with "structural" changes in the economy. If we had a stable, prudent, fiscally conservative populace that saved diligently, bought cautiously, and paid down their mortgages, there would be a severe crimp in innovation right now.

WER: In other words, doing the "wrong" thing economically may be the "right" thing?

PH: Well, those are value-laden adjectives. What we are talking about here is the orchestration of change, and what I find fascinating is that we are all, pretty much, in lock-step, playing out different roles in this process of change. It is easy to criticize and judge economic behavior as being speculative, greedy, fear-driven and heedless, as I did earlier in the interview, but at the same time it is difficult to see that we may be crudely trying to create a better economy out of all this, not a worse one as some would have us believe.

WER: Are we going to have a deflationary period similar to the Depression then? And if so, how could anyone possibly consider that period "creative" when so many suffered so much?

PH: Good point. First, I do not think we *will* have a Depression. We already *are* having one in many parts of the country. There is great suffering, and one of the unfortunate results of the popularization of economic news such as inflation figures, stock market reports, and GNP rates is that it obscures the

"REGARDLESS of the Depression, the late twenties and early thirties were a time of rapid economic restructuring. . . . Opportunity comes from confusion and uncertainty. It is when there is a breaking apart of the traditional economic bonds that the entrepreneur flourishes."

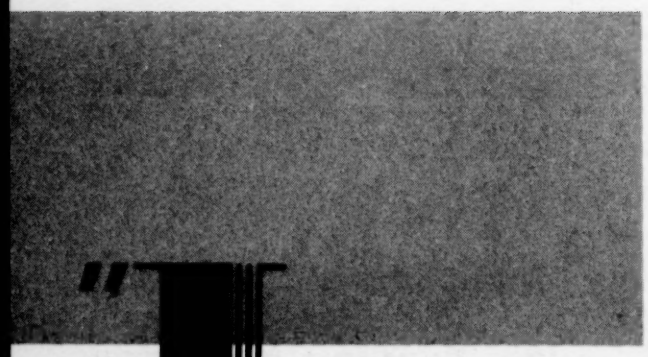
unbelievable variety of economic experiences that people are having in this country. From instant wealth to grinding poverty and malnutrition, we have oversimplified events and blotted out so much of our common condition. There is a Panglossian glibness when economics is presented by politicians in power, and a Chicken Little shrillness when the party out of power is talking. Both distort and reduce economic complexity to jargon. So rather than talk about what "might" happen in the future, it would be much more salient to try and describe what *is* happening today. Fortunately, there are people who do recognize that economic renewal does not spring forth from Congress but from region and locale. Amory and Hunter Lovins are creating programs for economic renewal by looking at local economies from a point of view of being net importers or exporters of capital and resources; Robert Rodale and Medard Gable have started a Regeneration Project with a particular focus on food; William Pilder is doing highly innovative work with displaced steelworkers in Johnstown, Pennsylvania. These are "pre-WPA," and therefore tell me that we will not have a collective Depression because we are already involved with remedies to the prediction.

WER: Do you foresee strong economic growth?

PH: If there are similarities between the twenties and eighties, and I think there are, they abruptly cease when you start projecting what kind of economic growth will come out of this unsettled period. The twenties were the onset of the automobile industry, the airplane and airline industry, the telecommunications industry, and a host of other industries that expanded the scale, scope, and size of individual economic activity. These were industries whose eventual integration into mainstream life would hugely increase the mechanical and physical power at each person's disposal. Once we were through the Depression, these industries expanded tremendously and became the engine of the post-war recovery. In the process, the world increased its consumption of raw materials by factors of 10 to 100, the latter being the increase in oil consumption between 1920 and 1970. This exponential increase in resource consumption can only happen once in a planetary era. This is not "cyclical" behavior. It will simply never be repeated again. And so we come to the irony of future economic growth: in order for a growing world to have more, we, the Western nations, have to have less.

WER: This sounds like the old Club of Rome argument in the '60s.

PH: Yes, except they missed the point. They saw reduced consumption as steady-state. In other words, they cautioned that further growth would deplete the world of critical resources. See, there are two ways to have less. One is to become mincing, restrictive, and tight. That *would* be a depression. We can certainly go that route by default, but it is absurd and unnecessary. The other way is to pursue Buckminster Fuller's dictum of "ephemeralization." In other words, the world does not have an economic problem but a design problem. The growth that came out of the twenties and thirties was too much, too fast. We designed a world too gross, too consumptive, and too resource dependent. And what we are in the process of doing is redesigning it, a type of economic growth that will not require more steel, rubber, or oil. I mention this again, as I have in the past in CQ, because there is still the misconception that we are going into an information age of high-technology. Technology is important, but in itself it is no more than one of the tools with which we will carve the future. Its value is its ability to miniaturize, quicken, and "ephemeralize" existing methods and processes. Peter Drucker, in his new book *Innovation and Entrepreneurship* (Harper and Row, 1985), points out that only 8 percent of the new employment since 1960 derives from "new" technology. The other 92 percent is due to the "non-technologists" and their/our job is to figure out how to redesign the world. If I was going to school now, I would avoid business school and study design. It is more pertinent to the economy than all the



"THERE IS STILL the misconception that we are going into an information age of high technology. Technology is important, but in itself it is no more than than one of the tools with which we will carve the future."

nonsense that supposedly constitutes a business education. In sum, we are going to grow aplenty, but it won't measure up in the way to which we are accustomed.

WER: What does this mean for mainstream manufacturers and industries, ones associated with the "old" economy?

PH: It means, in oil-business parlance, that one has to move downstream. There is tremendous over-capacity worldwide in terms of raw materials — the primary economy — as well as manufactured material such as steel, plastics, chemicals, and textiles — the secondary economy. No amount of tinkering will take this overcapacity away, and it is foolish to try. Intelligent managers will see that their future lies heavily on the design and marketing of products to the end consumer, not the production of raw material. This shift is still not well understood. Look at U.S. Steel buying Marathon Oil. One dinosaur buying another. It will be seen as one of the great stupidities in modern business history. Ditto with Dupont buying Conoco. Dupont made money by taking raw materials, usually hydrocarbon based, and creating unusual value-added processes, many of which were and are proprietary. Instead of differentiating further, and adapting a corporate culture that could touch, breathe, and feel how the marketplace was changing so that it could create new products for it, it took billions of earned dollars and bought raw materials. It was as if Kellogg's went out and bought 100,000 acres of cornfields in Iowa. Dupont's move would have been brilliant in 1972-73. Today, it looks very lame. And it points to another misconception.

Old-line economists and financiers like Felix Rohatyn writing in the *New York Review* bemoan the fact the United States is becoming a service-based economy. And certainly, that is where the employment growth is coming from. But that is the natural and predictable result of an economy that is ephemeralizing. We are moving from the material to the immaterial, so to speak, from the tangibility of a blast furnace to the intangibility of programming.

WER: And the small businessperson? Where does he or she fit in?

PH: The small business is sitting in the catbird's seat becase it is where the rubber hits the road. Individual entrepreneurs and small business people are standing exactly where big companies want to go. While corporations spend hundreds of thousands of dollars trying to figure out what you already know in your gut, you can act on it. A friend who works at a large think-tank recently flew off to the East on a consulting assignment to a very large food company. They wanted to know if the trend towards lighter, healthier foods with less salt, fat, and sugar is for real or merely a fad. I am sure they will finally come to a conclusion, maybe by next year sometime, and they will probably figure it out correctly: "It's true, people really do want to feel better and live longer." And then they can spend a year figuring out what to do about it. They can do this because they have lots of products and a famous brand name that are cash cows for them, buying them lots of time to be frittered away. To my way of thinking, the change in eating and drinking habits in America is the same "ephemeralization" that we are seeing in everything from cars to computers. But to entrepreneurs, such conceptualization is hardly the point. Their stomachs know the answer. They can act. But most people are frozen because they think big companies have the answer, know what is going on, are in the lead, etc., when in fact it is quite the opposite. When going into business, do not be afraid. Fear is numbing and the fact is, large American companies are paper tigers.

WER: You are beginning to sound upbeat.

PH: How can I not be? I doubt if a time will come again in our lifetimes when there is so much opportunity. It is when you feel uncomfortable, uncertain, and unsure — that is the source of innovation and real change. ■

"INDIVIDUAL entrepreneurs and small business people are standing exactly where big companies want to go. . . ."

"I doubt if a time will come again in our lifetimes when there is so much opportunity."

You are the Customer

You are the Company

BUSINESS-AS-SERVICE GUIDELINES

by Paul Hawken

illustrations by John Dykes

From the general of the previous article to the particular. In a sense this piece is not written so much by Paul Hawken as by his company, Smith & Hawken (25 Corte Madera Ave., Mill Valley, CA 94941; 415/383-4415). The company imports superb garden tools and sells them by mail order, but the company guidelines here are interestingly independent of the kind of business it does. Most of them apply perfectly well to magazine and book publishing, to take a handy example, or to running a restaurant, or a bookstore, or a bank, or a taxi company, or an investment house, or, I suppose, a church.

—Stewart Brand

TWO YEARS AGO, UNCOMMON COURTESY offered a two-day course called "Business as Service." Its premise was simple: All business is service regardless of whether it manufactures, produces, or distributes. The distinction between the "service" sector of the economy and the "goods" sector is an artifice. In reality, no such distinction exists. What does exist is the relative tangibility of products, goods, and services. Some are measurable in units, and some are not. Some businesses make products that can be palletized, and some create products that slip into envelopes. Despite the materia involved in an economic process, it is important for business owners to realize that *all* business is service based, that the intangible precedes the tangible, the invisible the visible.

This has always been true. As you analyze and break down economic processes, you enter a labyrinthine world of human

interaction and endeavor. The analysis reveals an endless relational process that is primarily intangible. This seems to be common sense, but it is also theoretical.

In our business, Smith & Hawken, we sell garden products through a catalog. Because of the distance between ourselves and the customer, we saw early on that we had to overcompensate for the seeming lack of convenience or control that a customer across the country might perceive in ordering from us, as opposed to buying locally. Over the years, we have developed a set of guidelines and maxims to guide us as we have grown — simple, sometimes mnemonic phrases that become an oral transmittal of company "culture."

Recently, Lewis Richmond, who heads our customer service, wrote them down for the first time. We are not a company of goals, principles, standards, cliches, and exhortation. We keep the company rah-rah stuff to an absolute zero and do not try to infuse our employees with a patented credo. Instead, we have concentrated on hiring people who embody the qualities we are striving for. It is hard to teach someone to assist and serve others if they are misanthropic to begin with. Thus, one of our first principles is that we hire people, not positions — heart over mind. Resumes do not cut much weight here.

Nevertheless, when Lew did codify our underlying customer service principles, they surprised us all in a way. As you will read, they are not flowery. They are terse, straightforward, and no-nonsense. But they also work for us.

For a person to be a good customer service person, they have to have permission to say "the heck with the company" without fear.

They are:

1. Our goal as a company is to have customer service that is not just the best, but legendary.

There is only one mail-order company that I know of that has "legendary" status when it comes to customer service and that is L.L. Bean. There are companies that do as well, but they are either too young, too small, or too unknown to have reached that status. "Legendary" may sound grandiose, but its intention is to give a goal that is ever expanding rather than merely attainable. There is always a disappointment in reaching a goal. You need a new goal, for one. And "legendary" gives us all the psychic room anyone could ask for. It also gives each person who relates to a customer a rich and imaginiative sense of possibilities. A person called once who had damaged their teak garden bench while they were assembling it. They lived a thousand miles from our offices. We called a carpenter friend who lived there and sent him over to fix it, no charge.

The point being that good service is part of an overall company approach. Just as the term "giving good weight" in the produce business reflects an "uneconomic" act, giving good service is not "economic," either. You lose money . . . but you don't.

2. You are the customer.

I think that sometimes companies demand too much identification from their employees. Many managers are softball coaches in disguise, and their primary motivational technique is teamwork, winning, and goals. When this happens, something is lost. For a person to be a good customer service person, they have to have permission to say "the heck with the company" without fear. When a

customer is upset, you are that person and feel their upset. You should have permission to do whatever you feel will make that person feel good again about their relationship to the company. Corny? You bet. But absolutely necessary. The most important barrier to be removed in this process is the thought of profit. As soon as you see a problem, a return, or an irate customer as a source of fiscal loss, the opportunity for meaningful resolution is cut off. Why do so many companies become tightwads when something goes wrong? Chances are that sometime in the past, a customer took "advantage" of the company. The company got fleeced or snookered. So a policy was instigated to make sure it never happened again.

As soon as an employee utters the words " It is our policy to . . ." your business has problems: 1) your unsatisfactory product, and 2) your unsatisfactory company. The fact is that most customer service policies are based on mistrust. Accumulated deceits on both sides of the ledger ossify into a rigid unfeeling "policy" of fraud prevention. Both company and customer lose, proving demonstrably that it is unwise to punish the many for the few. To avoid this, don't be the company. It doesn't even exist. It is just a group of people engaged in an activity at a given place in time. Far "realer" than your company is your customer. At the same time . . .

3. You are the company.

You don't have to be servile to serve. Each person of the company carries the authority, dignity, and bearing of ownership. To really help someone who has a problem does not require groveling on your part to convince them you are sincere. Ideally, it means that you do not have to go "higher up" to get permission to be kind, sensitive, or yielding. Frugality need not include meanness, nor should economy exclude sharing. The problem with business is not business, but character, its presence or lack.

My suspicion is that companies owned by passive stockholders with no employee ownership are dinosaurs. I doubt if any company can truly thrive in the coming decades without some form of equitable and fair employee ownership. We have employee stock ownership plans in our company for very practical reasons: Dave Smith and I are too lazy to be bosses. We can have the responsibility of management, but we are not interested in the top-down control required to maintain sole ownership.

4. There is no such thing as taking too much time with a customer.

You cannot measure service by any standard of productivity so it's best not to try. Our business lives, breathes, and dies according to one simple activity: repeat business. Without it, we could grow for a certain number of years, but we would be like an emphysemic running to higher altitudes. The core of our business is a customer base that is satisfied and that will turn to us for needs and wants as they arise. Thus, no amount of activity is wasted when it comes to making sure that every transaction is right, regardless of size or scope. Our best, most fiercely loyal customers, the ones who create the most word-of-mouth business, are ones who had a problem.

5. The phone is mightier than the pen.

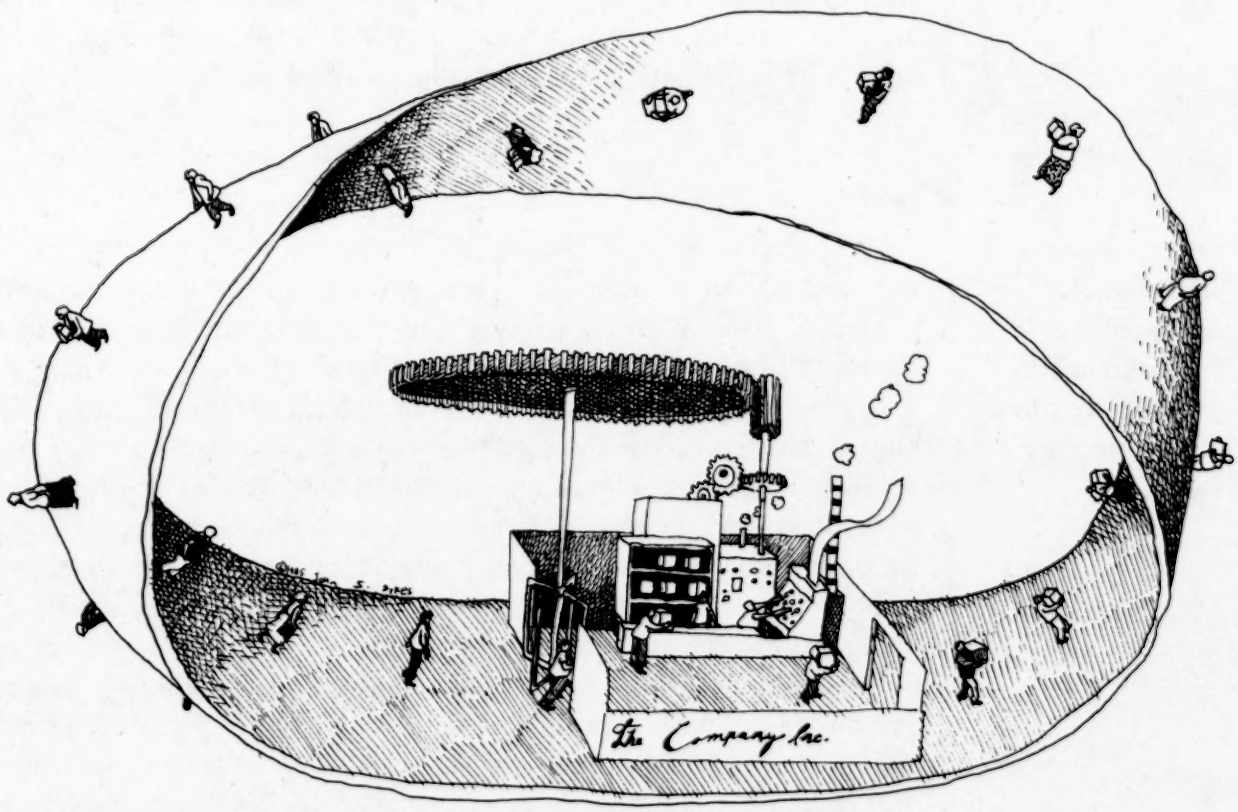
This is a new one. We were writing a lot, trying to save money, and even using form letters for routine inquiries and problems (invalid credit card numbers, for example, would be sent a form letter).

Two months ago, we came across one of our form letters that had been batted back and forth between "customer service" and our customer concerning an invalid

American Express card. After investigating, we discovered the error was ours, the customer was an old and dear one, and her order had been held up two months because of crossed correspondence. A true mail-order nightmare come true. We had screwed our own customer. We did two things. We sent her the order free and ate $90. And we stopped using 22¢ stamps. Now, if there is a question, concern, nag, or doubt, we call. I do not think it costs more money but less. It collapses the time between problem and solution, as well as eliminates paperwork.

6. If it doesn't feel right, make it right.

No resolution is a good resolution unless you feel good about it. For example, we could have sent the delayed order on and told her to send a check later. But we didn't feel good about it. We wanted to show her that we take our mistakes seriously, and that her pride and dignity as a customer is esteemed, not taken for granted. Not only did she feel that we were serious about making up for our mistake, but everyone on staff knew about it and acknowledged the impact as well.



7. A job isn't done until it is checked.

Redundancy, redundancy, redundancy. If our work is 99 percent error free, then we can theoretically reduce that 1 percent error rate to less than 1/10 percent if we do the work twice. In other words, each successive level of error-free performance costs a lot. But it is worth it. We process too many transactions per day, and people are too bombarded by the complexities of our work for us to expect error-free work. If we don't build in redundancies, the customer will do our error checking for us and they will not be so forgiving.

8. Do it once and do it yourself.

Sounds like a contradiction to item 7. What it means is this. A customer calls and says "I did not receive my pencil with my flower markers." Right. You take the information, march out to the warehouse, grab the pencil, and put it in the envelope and address it. Whenever possible, one person follows through on the entire

customer service situation. We try not to paperize our way by creating layers of hirelings that shuffle instructions to each other. We have a very lateral organization where each person has a broad scope of skills and duties in a given day. Thus, we try to eliminate delegation and encourage integration of multi-faceted skills into each person.

9. When in doubt, ask. When not in doubt, ask.

Do not assume you know. We get a bewildering variety of customer service questions. And rather than bluff our way we would rather have an atmosphere where it is OK not to know. The second, ask when not in doubt, is a subtler principle. It means we are a learning-based company, and that a spirit of inquiry is intrinsic to that goal being realized. In terms of company processes, it means that we constantly inquire of each other, informing and sharing constantly. People do not want to work in hierarchical organizations. They want to work in cooperative atmospheres where people are assisting each other towards a mutual goal. This does not work when someone embodies the cult of the expert, appearing or actually possessing great amounts of information that is parceled out according to office politics. If you are not in doubt, you may be kidding yourself.

10. A mistake is not a mistake. It is a chance to improve the company.

Opportunity arises from confusion, not certainty. A mistake is where the predicted doesn't happen. We were making a normal error rate in our shipping department. We had a one percent rate of mis-ships or short-ships. That may sound high to you and me, but that is not high for the industry. High or not high, it was unacceptable. How to change it? We invented the cookie jar. We figured every order shipped that involved a subsequent problem cost us at least $10 in out-of-pocket expenses. Not to mention indirect costs of lack of re-orders, etc. So we instigated a policy where we paid in 10¢ to a cookie jar for every order. And for every order where there was a short-ship or mis-ship, we took out $10 from the mythical cookie jar. Anything better than that would leave money in the jar. That money was divided amongst the packers. Packers do not stay for long periods. There is constant turnover, and few (only one) have stayed long enough to become part of the profit-sharing and ISOP plan. So we needed a way to motivate short-term employees. Essentially we said that they could receive the monetary benefits of any improvement they made. As a company, we just wanted to improve our service. What happened? Our error rate dropped to approximately three tenths of one percent.

Basically, mistakes and problems can cause two different modes of being: one is cope-and-grope, the other is innovation. To innovate, mistakes are taken as cues and no one is made wrong.

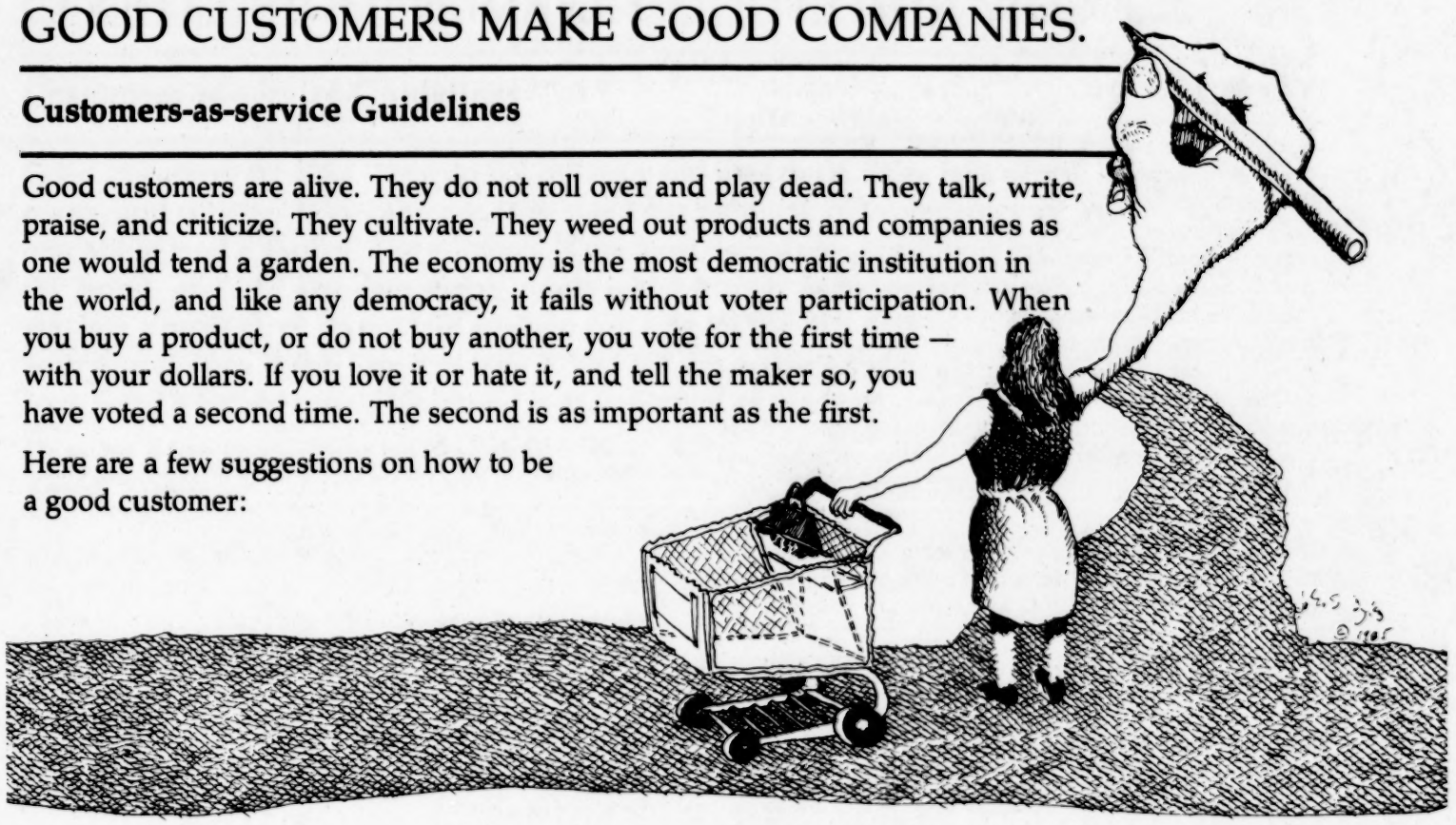
One more thing could be said. We couldn't do this, or afford to do this, if we did not sell high-quality products. Our returns policy is simple. If at any time for any reason or no reason you are not satisfied, you can return an item purchased from Smith & Hawken and get a full refund or replacement. It is the same policy in essence that made L.L. Bean so successful. (The apocryphal story always told is about the thirty-year-old sweater that developed holes and was replaced for no charge.) The restrictive return policies and parsimonious attitudes of some companies stem from a deeper reality. Their goods are not so good. They are "bads." And bad-quality products cost a lot. The most frugal thing we can do is have high-quality products. It is never a waste to make it right to a customer. If it costs so much to do so that we go out of business, then we ought to. In other words, a no-holds-barred returns policy is the litmus test of our claims of quality.

GOOD CUSTOMERS MAKE GOOD COMPANIES.

Customers-as-service Guidelines

Good customers are alive. They do not roll over and play dead. They talk, write, praise, and criticize. They cultivate. They weed out products and companies as one would tend a garden. The economy is the most democratic institution in the world, and like any democracy, it fails without voter participation. When you buy a product, or do not buy another, you vote for the first time — with your dollars. If you love it or hate it, and tell the maker so, you have voted a second time. The second is as important as the first.

Here are a few suggestions on how to be a good customer:



1. Complain. If you don't say it, who will? Use post cards, letters, or the phone. It takes a minute, you will feel better, and the company will benefit. Most companies are extremely sensitive to criticism. In fact, the bigger they are, the more sensitive they can become. As a company manager, I can only tell you that criticism has an extraordinary effect.

2. Praise. This is just as important. When a job is well done, a service well rendered, say it. Strokes reinforce good people doing good things, and help large companies reward creative and constructive behavior. I would say that praise letters have an even bigger effect than complaints, simply because they are rarer. We read the ones sent to us aloud at daily staff meetings.

3. Be redundant, redundant, redundant. You know what you want, the company doesn't.

When something isn't right, be as specific as you can about what you want, and spell it out simply, plainly, clearly.

4. Demand quick service. There is no excuse for slow service nowadays. Existing technologies allow any company to process orders and problems within 24 hours. After that, it is circumstance, sloth or poor management.

5. Be quick yourself. If something is wrong, pounce. Do not wait four months or procrastinate. Say it or state it promptly. You will get it off your chest and the company will probably have an easier time believing you.

6. Be kind. The squeaky-wheel theory of getting attention isn't fair to you or the company. When you contact the company, assume the person on the other end is as good a person as you and your friends. Try being a person someone else would like to assist. Let the company have the pleasure of helping you. If that doesn't work, then . . .

7. Be persistent. If you do not get satisfaction, go upstairs. Keep going to higher levels. In so many companies, the top does not know the mayhem the bottom is committing. Let them know. Tell them civilly, but tell them.

In the end, the economy can be no better than its buyers. It is buyers who sent Detroit reeling to redesign their cars, improve on quality and recreate labor/management relations. You caused it. Not the Japanese. And you can do it to any industry you so desire. Who's next? ■

27 GATE FIVE ROAD SAUSALITO CA 94965

Small Business Reporter

CINDY CRAIG: A monolith such as Bank of America isn't normally the first place small business people think of turning to for information. They'd do well to think again. Bank of America puts out an 18-title series called ***The Small Business Reporter****. Each report, which runs between 12 and 35 pages, discusses a specific area of concern to the small business person. Titles include "Cash Flow/Cash Management," Financing Small Business," and "How to Buy or Sell a Business." In addition, there are individual profiles of many different small businesses: restaurants, handicraft stores, gift shops, general job-printing, and bicycle stores. These reports will give you a good sense of the unique needs and demands of each business. Additional sources of information are also suggested. If you live near a Bank of America, this is an especially good bargain: they're free at all B of A branches.*

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Among the different types of financial statements, the two key reports for all sizes and categories of business are the Income Statement, which records revenue versus expenses, and the Balance Sheet, which lists what is owned and owed. These universal elements of enterprise provide a picture of the business's strengths and weaknesses.

— Understanding Financial Statements

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Brokers who specialize in business opportunities often are employed by sellers. A broker generally provides such services as finding and screening buyers, presenting basic information about the business to buyers, and helping ensure that proper legal steps are taken. Generally, fees for their services amount to about 10 percent of the selling price. However, fees may be negotiable. . . .

Goodwill can be thought of as the difference between an established successful business and one that has yet to establish itself and achieve success. The price the buyer should be willing to pay for goodwill depends on the earning power and potential of the business.

The buyer and seller should be careful in assigning a value to goodwill because of the tax implications for each party. The amount the seller is paid for goodwill

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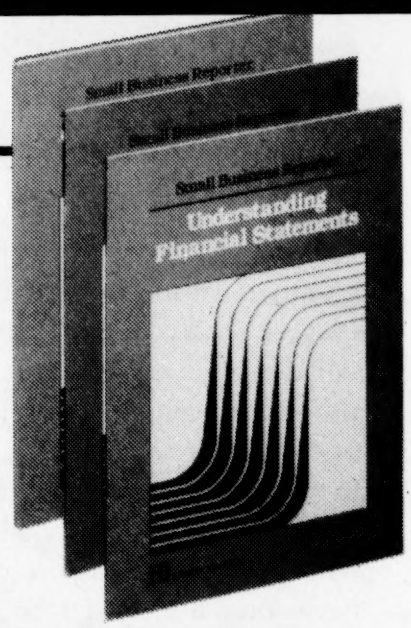

receives capital gain treatment. The buyer will not be able to deduct any of this amount because goodwill is considered a capital asset that cannot be depreciated or amortized for income tax purposes.

—How to Buy or Sell a Business

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Business Operations	
How to Buy or Sell a Business	SBR-102
Financing Small Business	SBR-104
Management Succession	SBR-107
Understanding Financial Statements	SBR-109
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Catalog Age

KEVIN KELLY: Your mailbox will certainly agree that we're in the catalog age. It's been stuffed with many samples from more than 10,000 newborn catalogs, proof that you can buy (or sell) practically anything through a catalog. This fierce elbow-rubbing leaves little room for serious mistakes by small-business catalogers. Anyone running, or contemplating running, a mail-order catalog should read this trade magazine, which discusses the refined science of cataloging in great detail. It's mostly about the tricks of big-leaguers like L.L. Bean, Edmunds, Sharper Image, et al., but it's worth listening to, especially since it's free to any "executive of a catalog marketing company." Chronic catalog shoppers might also find it informative.

First halftone photo using live model in a catalog (1896 Ward)

Catalog Age
Charles I. Tannen, Editor
Subscription **free** from:
Catalog Age Publishing
P.O. Box 4006
125 Elm Street
New Canaan, CT
06840-4006

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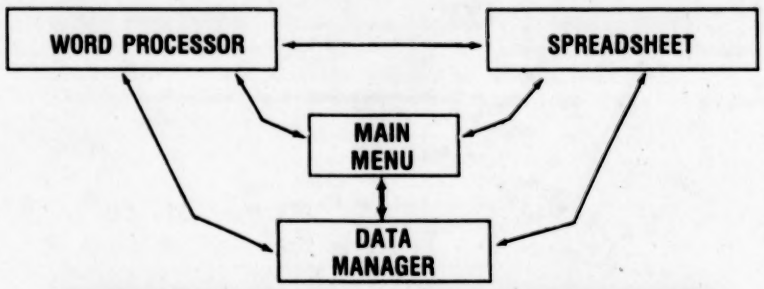
It is easy to make a catalog business grow when it is small, if its concept is sound and well executed. When it is small, media possibilities may not be exhausted, and there are plenty of names to rent at a variable cost that is break-even or better. At this stage, there is little reason for the cataloger to put his resources of time, energy, and money into anything except realizing the potential of his present catalog. He can perfect his merchandise, improve his catalog, refine his operating procedures, and build his list and net worth.

As he goes along, however, he will find that he can make fewer and fewer improvements in his merchandise and catalog. At the same time, new lists to rent that break even also become fewer. When he can find no new sources of names to acquire at a break-even cost, the cataloger may decide to acquire names at a cost that is greater than break-even, and recoup his investment from increased future sales and profits. When he has done this, his business, as it is conceived, has peaked. It is at this point that catalogers often ask, "Where do we go from here?"



Linking diverse applications . . .

THE SMART INTEGRATED SOFTWARE SYSTEM

Version 2.0. Not copy-protected. Complete package, $895; separate packages: SPREADSHEET, $395; WORD PROCESSOR, $295; DATA MANAGER, $495. IBM PC/XT/AT/compatibles (256K). Requires 2 disk drives or hard disk. Innovative Software, Inc., 9300 West 110th St., Suite 380, Overland Park, KS 66210; 913/383-1089.

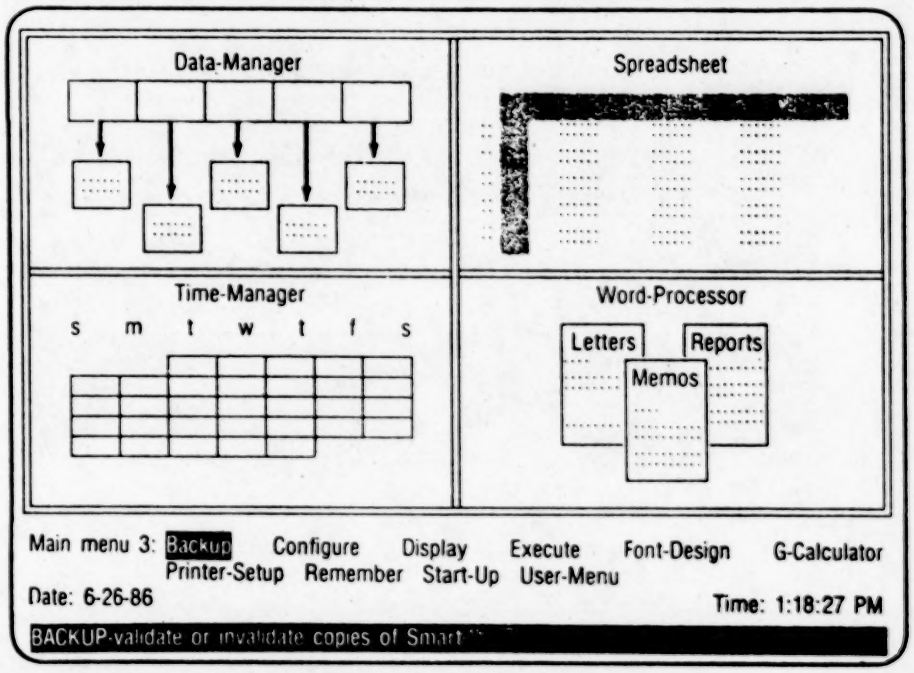
RIK JADRNICEK: The SMART SYSTEM provides a very convenient method of creating an entire data system, one that carries out routine tasks automatically, one through which data can flow easily from one application to another, and one that's easily modified.

*I use the SMART SYSTEM to develop what I call megamodels. For example, in one application I've been working on, I've drawn the floor plans of a shopping center with AUTOCAD, a computer-aided design program (**WESC** p. 134), then moved the data (dimensions) from AUTOCAD into the SMART SYSTEM, and can now generate database reports that (among other things) show lease areas with price per square foot, and spreadsheets that do complex lease rollover analyses. Megamodels like this one take microcomputing into another dimension — one with maximum data entry and maximum analysis.*

I started megamodeling using other integrated systems like SYMPHONY and 1-2-3, but found I was running up against their limitations — primarily with copy-protection schemes that make it difficult to move between these programs and others. Fortunately, I could load my 1-2-3 models straight into SMART, and with no problem at all still use them. The SMART spreadsheet is nearly as fast as 1-2-3 because the program manages memory so effectively.

*BARBARA ROBERTSON: You needn't create megamodels to find good uses for any program in this set. Clifford Figallo uses only the database program to manage the **Whole Earth Software Catalog** library. However, having flexibility and depth means that you won't outgrow them, nor will your data be stuck in an isolated world of its own.*

*If you are the only one working with the data and your applications are not particularly complex, you'd find ENABLE (**WER** 47, p. 54) easier to use and less expensive. However, if you are creating systems that other people will use, this is the one to get.*



The main menu of SMART SYSTEM displays the four computing areas you can head into. Besides the usual three of spreadsheet, word processor, and database, there is a calendar function — a sort of time-processor — that runs in three speeds (days, weeks, and months) and churns out schedules. From the main menu you can also dip into a decent calculator (G-Calculator).

Surface plots in 3-D . . .

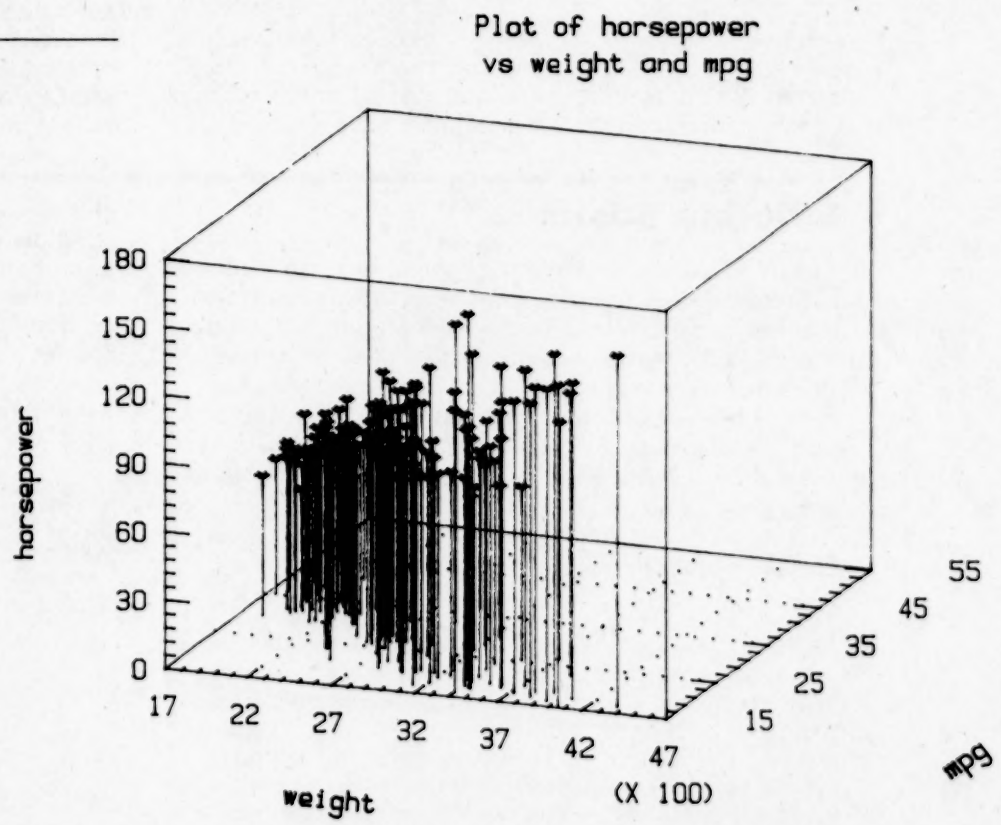
STATGRAPHICS

Neil Polhemus. Version 1.0. Not copy-protected. $695; street price $475. IBM PC/XT/AT/compatibles (384K). Requires 2 disk drives or hard disk. STSC, Inc., 2115 East Jefferson St., Rockville, MD 20852; 301/984-5123.

WOODY LISWOOD: This program made my day. Finally a complete statistics program with built-in graphics, and it's not copy-protected at that. STATGRAPHICS is the best statistics package I've used.

The plotting capabilities are superb! They include three-dimensional graphic and bar charts as well as 3-D surface plots, which makes the display and interpretation of statistical data almost easy.

STATGRAPHICS does the following: smoothing (9 kinds), time series (16 kinds), categorical analysis (4 kinds) multivariate matrices and plots (15 kinds), and nonparametric tests (12 kinds).



One unique feature of STATGRAPHICS is its ability to display data in three dimensions as seen in this floating three-dimensional plot (right) showing gas economy of a selection of cars with differing weights and horsepower.

Home Office

KEVIN KELLY: Brought to you by Time, Inc., the not-little publishers of ***Fortune*** *(big business) and* ***Money*** *(personal business), this magazine is for smaller businesses, subtitled "for people who work at home." The inaugural test issue had a fine mix of advice for hiring part time help, developing a business plan, selecting a phone system, and designing your home-office space; and answers to the ever vital question: what part of my home expenses can I deduct? It's* ***Time****-magazine slick, well researched, and probably a sure buy for the several million folks working, or soon to be working, out of a one-room office.*

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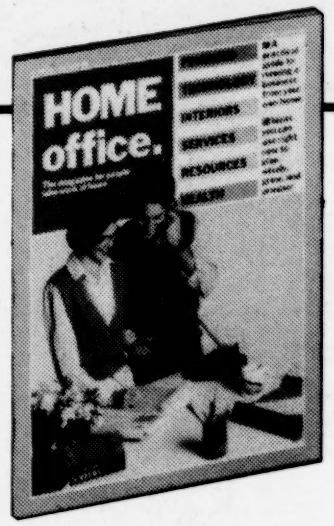
After working for many years as a reporter and columnist for The Atlanta *Constitution*, Roger Witherspoon, 36, quit in 1982 to become a freelance writer. Although book contracts and magazine assignments have doubled his income, self-employment has not always been good to Witherspoon. When he tried to take advantage of lower interest rates by refinancing his mortgage, his application was quickly rejected. "You're not employed," a loan officer told him.



Home Office
Barbara Thompson Howell, Editor
$3/single issue postpaid from:
Home Office
P.O. Box 777
Radio City Station
New York, NY 10019

Many newcomers to self-employment are shocked to discover that the rules of credit work differently once they're no longer receiving a regular paycheck. Bank loans, equipment leases, rentals, and even mundane purchases of office supplies can become major obstacles for the person launching a business or attempting to expand an existing home enterprise.

•

The office is the place used by your patients, clients, or customers in meeting or dealing with you in the normal course of your trade or business. Two recent court cases have shown that if you plan to use this test as your defense, you must meet or deal *in person* — not by telephone — with your business contacts. John W. Green, a Hawaiian condominium account executive, and Max Frankel, the editorial-page editor of the New York *Times*, both lost their home-office deduction in court because they rarely met anyone for business at home.

•

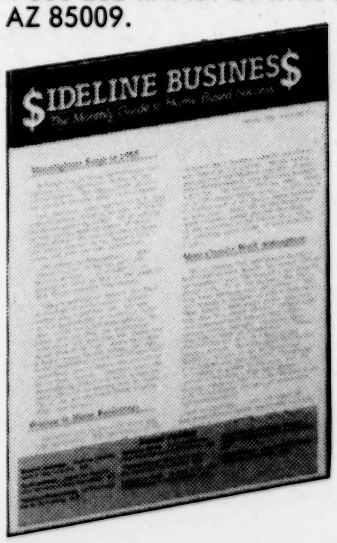
The regional phone companies are also experimenting with more exotic new services. "Little John" Weyrick, 37, is a Florida disc jockey who rents out his services to parties. He pays $10 a month to Southern Bell for a feature known as Call Monitor that helps him drum up business. Among other things, Call Monitor stores the numbers of the last 30 people who called, so that Weyrick can reach potential customers even if the caller was too shy to leave a message on his answering machine. Says Weyrick: "I call back and introduce myself and they say, 'Oh we were looking for a deejay but didn't want to talk to a machine,' I can no longer imagine not having this service."

Sideline Business

KEVIN KELLY: Some see moonlighting as a cautious way to tiptoe into full-time small business. Others calculate that keeping their small business no bigger than a sideline job is the most economical use of their time, and strive to keep it that way. This six-page newsletter for moonlighters of both kinds is a morale booster and a quick read for tips that you might find in other business publications, if you had time to read them. A couple of pages each issue is devoted to moonlighters reporting on their own sideline enterprises — a good place to hear the latest brainstorms.

•

In June, the Federal Communications Commission voted unanimously to permit competition in the pay phone business by allowing individuals and businesses to install their own coin-operated telephones. The ruling opens the way for companies to manufacture and sell pay phones, and for individuals to set them up. According to one such company — Rand of Phoenix, Inc. — nearly 1.6 million pay phones produced $890 million for the phone companies in the US last year — an average of $565 per phone. Explains Sara Flood of Rand: "Our coin-operated phone meets all FCC requirements and more. For instance, it offers free emergency 911 capability, free 800 call capability, and touch-tone dialing. Pay phones are profitable machines that can be placed in almost any location." For details, you can call her at 1-800-262-RAND. Or write 2000 N. 25th Drive, Phoenix, AZ 85009.



Sideline Business
Jerome Goldstein, Editor
$24.95/year
(12 issues) from:
The JG Press
P.O. Box 323
Emmaus, PA 18049

"Surely You're Joking, Mr. Feynman!"

STEWART BRAND: "Adventures of a Curious Character," it's subtitled, and indeed it is the anecdotal autobiography of a man with unbounded curiosity and unbounded bravado to pursue wherever his curiosity leads him. It led this particular physicist to a Nobel Prize and a reputation as one of the most inspiring teachers alive. And also to expertise as a safecracker, professional drummer, polyglot, graphic artist, and non-drinking barfly. He's a scientist with his whole life, nonstop, with gusto and unfailing good cheer. Seductive book.

•

First thing on Monday, I go into the physics building and ask, "Where is the cyclotron — which building?"

"It's downstairs, in the basement — at the end of the hall."

In the *basement*? It was an old building. There was no room in the basement for a cyclotron. I walked down to the end of the hall, went through the door, and in ten seconds I learned why Princeton was right for me — the best place for me to go to school. In this room there were wires strung *all over the place!* Switches were hanging from the wires, cooling water was dripping from the valves, the room was *full* of stuff, all out in the open.

"Surely You're Joking, Mr. Feynman!"
Richard P. Feynman
1985; 350 pp.
$17.95
postpaid from:
W.W. Norton
500 Fifth Avenue
New York, NY 10110
or Whole Earth Access

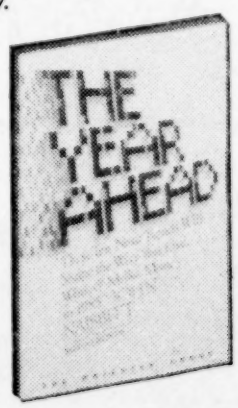
Tables piled with tools were everywhere; it was the most godawful mess you ever saw. The whole cyclotron was there in one room, and it was complete, absolute chaos!

It reminded me of my lab at home. Nothing at MIT had ever reminded me of my lab at home. I suddenly realized why Princeton was getting results. They were working with the instrument. They *built* the instrument; they knew where everything was, they knew how everything worked, there was no engineer involved, except maybe he was working there too. It was much smaller than the cyclotron at MIT, and "gold-plated"? — it was the exact opposite. When they wanted to fix a vacuum, they'd drip glyptal on it, so there were drops of glyptal on the floor. It was wonderful! Because they *worked* with it.

The Year Ahead

*KEVIN KELLY: The author of best-selling **Megatrends** volunteers his prediction for the distinguishing trends in the year ahead. The table of contents in this skinny book tells about all you need to know.*

The Year Ahead
John Naisbitt
1984; 63 pp.
$6.95
postpaid from:
American Management Association
135 West 50th Street
New York City,
NY 10020
or Whole Earth Access



•

In the year 1985 —

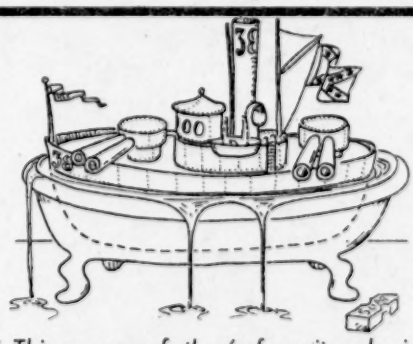
1. Unemployment starts to give way to labor shortages. That's how it will go for the rest of the century.
2. Americans discover that the United States has a new major minority group: Hispanics. Blacks move to third place.
3. The challenge for industry becomes not the retraining of workers — but the retraining of managers.
4. Education technology takes off. The little red schoolhouse goes on-line.
5. The bypass brings efficiency and autonomy to traveling and communicating. It's not just a heart operation anymore.
6. The San Antonio-Austin Corridor emerges as the nation's biotechnology capital. Winning the title is like having a billion dollars in the bank.
7. Food pollution erupts as our major environmental issue. What you eat is what you become.
8. The global portfolio is born. There's no stopping the clock on international trading.
9. Computers and telephones finally marry after a lengthy engagement. Invitations go out this year.
10. Doctors, druggists and delis deliver. If you want to stay in business, convenience counts.

Thinking Physics is Gedanken Physics

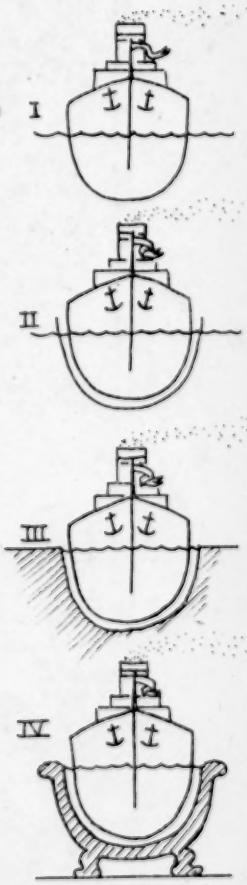
*J. BALDWIN: Next time someone hits you with one of those worthless trivia questions, hit back with something (such as the example here) from this collection of physics mind-tweakers. Chosen especially to encourage clear thought, the puzzles are fascinating, fun, and perhaps maddening, be you a professional or one unfettered by education. It's always exciting to find out that an answer is exactly the opposite of what you thought was "common sense." The author is the same as for the excellent **Relativity Visualized** (**CQ** #42, p. 97), and he also co-authored the entirely nifty **Conceptual Physics** (**CQ** #38, p. 73). The three taken together constitute the most painless and everyday-useful introduction to a difficult subject that I've yet seen. (Oh yes — Gedanken. It's what Einstein called "Thinking Physics.")*

•

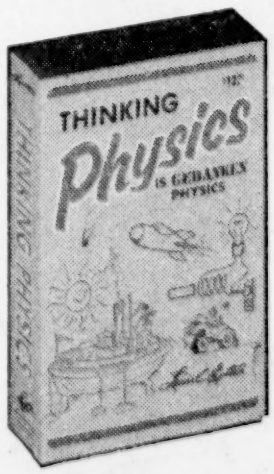
Can a battleship float in a bathtub?* Of course, you have to imagine a very big bathtub or a very small battleship. In either case, there is just a bit of water all around and under the ship. Specifically, suppose the ship weighs 100 tons (a very small ship) and the water in the tub weighs 100 pounds. Will it float or touch bottom?



Answer: It will float if there is enough water to go all around it.



* *This was my father's favorite physics question.*
—L. Epstein



Thinking Physics is Gedanken Physics
Lewis C. Epstein
1983; 571 pp.
$14.95
postpaid from:
Insight Press
614 Vermont Street
San Francisco, CA 94107
or Whole Earth Access

★ ★ ★ THE ★ ★ ★
BIASED, PEDANTIC, INSUFFICIENTLY REVERENT, AND PROBABLY BEST IGNORED
★ HISTORY ★
OF THE
UNITED STATES
BY
★ LARRY GONICK ★
THE OVEREDUCATED CARTOONIST

OUR STORY: AS 1640 TURNED INTO 1755, THE COLONIES ACQUIRED A PRESS, LAWYERS, A SCIENTIST, AND SOME LIBERTIES FOR WHITE MEN WITH PROPERTY—ALL THE PREREQUISITES OF MODERN NATIONHOOD. NOW IT'S ACTION TIME!!

CHAPTER 4
MIGHTY BEEFS FROM LITTLE BEAVERS GROW

ON APRIL, 1754, A VIRGINIA MILITIA COMPANY MARCHED WESTWARD. THEIR MISSION: TO PROTECT ENGLISH TRAPPERS AND LAND SPECULATORS FROM THE FRENCH COMPETITION. THEIR LEADER: THE VERY YOUNG (22 YEARS, 2 MONTHS), VERY TALL (6 FEET AND CHANGE), AND VERY HONEST (99 ON A SCALE OF 100) COLONEL **GEORGE WASHINGTON.**

YOUNG GEORGE ORDERED HIS MEN TO ATTACK THE FIRST BUNCH OF FRENCH SOLDIERS THEY OUTNUMBERED, KILLING MOST, CAPTURING SOME, AND EARNING THE COLONEL A REPUTATION AS A MAN OF ACTION.

TOO BAD FRANCE AND ENGLAND WERE AT PEACE AT THE TIME...

THE VIRGINIANS QUICKLY HEAPED UP SOME WALLS AND CHRISTENED THEM "FORT NECESSITY." THIS MIGHT HAVE GIVEN WASHINGTON A REPUTATION AS A COMEDIAN, BUT HE NEVER CRACKED ANOTHER JOKE FOR THE REST OF HIS LIFE.

WHEN THE REST OF THE FRENCH ARRIVED, WASHINGTON BARGAINED HIS PRISONERS FOR A SAFE MARCH HOME, WINNING A REPUTATION AS A SHREWD FLESH TRADER (LEARNED ON THE PLANTATION) AND SOMEONE WHO KNEW EAST FROM WEST.

THIS INCIDENT IGNITED THE

(ALSO KNOWN AS THE SEVEN YEARS WAR, THE WAR WITH TWO NAMES, THE WAR WITH THREE NAMES, FOUR NAMES, ETC. AD INFINITUM...)

AFTERWARDS, WASHINGTON TRIED TO SQUANDER HIS NEW REPUTATION BY GOING INTO POLITICS. REFUSING TO STOOP TO THE OLD VIRGINIA CUSTOM OF FILLING THE VOTERS WITH WHISKEY, HE LOST HIS FIRST ELECTION. IN THE NEXT ELECTION HE STOOPED AND WON. WASHINGTON'S REPUTATION ROSE AGNN!

AT THIS POINT WE MIGHT WONDER: WHERE DID THOSE FRENCH SOLDIERS COME FROM?

WELL, IT ALL GOES BACK TO THE BEAVERS, YOU SEE... FOR MILLIONS OF YEARS, THESE BUSY ANIMALS HAD BEEN EAGERLY GNAWING DOWN TREES, BUILDING DAMS, AND GOING TO LODGE MEETINGS. THEN CAME THE WHITE MAN, AND THE BEAVER STOPPED BEING A CUDDLY RODENT AND BECAME A NATURAL RESOURCE...

4

YES, IT GOT SO THAT EUROPEANS COULDN'T LIVE WITHOUT THEIR BEAVER HATS (UNLIKE THE BEAVERS).

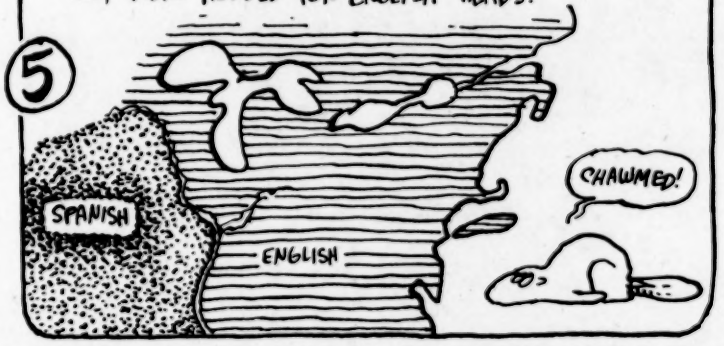
STARTING IN QUEBEC IN 1608, THE FRENCH HAD BUILT A SIZEABLE AMERICAN EMPIRE ON THE BODIES OF BEAVERS.

BY 1754, FRANCE AND BRITAIN WERE CHAFING AGAINST EACH OTHER, CAUSING A RASH, OR AT LEAST A RASH ACT.

AFTER WASHINGTON'S SALLY (NOT TO BE CONFUSED WITH JEFFERSON'S SALLY—SEE BELOW), THE TWO POWERS DECIDED TO HAVE IT OUT—POSSIBLY THE ONLY WAR EVER FOUGHT OVER HATS.

WHEN IT WAS OVER IN 1763, BRITAIN HAD CANADA AND ITS BEAVERS, WHO WERE DOUBTLESS THRILLED TO KNOW THEY WERE HEADED FOR ENGLISH HEADS.

5



THE FRENCH AND INDIAN WAR, LIKE OTHER WARS, HAD A BEGINNING, A MIDDLE, AND AN AFTERMATH. IT DOUBLED BRITAIN'S NATIONAL DEBT AND LEFT THE COLONIAL ECONOMY IN THE DOLDRUMS (A POPULAR REST STOP FOR POST-WAR ECONOMIES).

6

BUT NOT TO WORRY! BRITAIN HAD A NEW (AS OF 1760), YOUNG (BORN 1738) KING, WITH PLENTY OF FRESH IDEAS AND ONLY OCCASIONAL FITS OF INSANITY: **GEORGE III.***

*PRONOUNCED "GEORGE AY-YAI-YAI"

TO FILL THE EXCHEQUER (AND ALSO TO MAKE MONEY), THE KING'S MINISTERS DREAMED UP THE **STAMP ACT**, WHICH WAS EITHER A TAX OR A FLAMENCO PERFORMANCE DANCED ON THE COLONIES.

7

EVERY CONTRACT, NEWSPAPER, AND GOVERNMENT DOCUMENT IN THE COLONIES WAS TO CARRY A GOVERNMENT-ISSUE STAMP.

ALTHOUGH THE STAMP ACT WAS ONLY A NICKEL-AND-DIME SORT OF TAX, AMERICA HAPPENED TO BE A LITTLE SHORT AT THE TIME.

BUT THAT WASN'T THE WORST THING ABOUT THE STAMP ACT. THE WORST PART WAS THAT PARLIAMENT HAD PASSED IT WITHOUT THE CONSENT OF THE POTENTIAL TAXEES*. THIS MADE THE STAMP ACT **T**AXATION WITHOUT **R**EPRESENTATION, WHICH WOULD HAVE UPSET THE AMERICANS EVEN IF THEIR ECONOMY WASN'T DEPRESSED.

TAXATION WITH REPRESENTATION IS THE BRITISH WAY!
TAXES IN ENGLAND ARE VOTED BY PARLIAMENT!
TAXES HERE IN VIRGINIA ARE VOTED BY THE HOUSE OF BURGESSES!
IF THE CROWN NEEDS MONEY, ALL IT NEEDS TO DO ASK!
THEN, IF THE BURGESSES APPROVE, I'D GLADLY PAY...
BUT THIS TAXATION WITHOUT REPRESENTATION IS TYRANNY!

*AS PART OF AN OMNIBUS BILL

THE COLONISTS, HAVING LITTLE ELSE TO DO, REACTED. THE VIRGINIA HOUSE OF BURGESSES PASSED RINGING RESOLUTIONS (THE KIND THAT ALARM PEOPLE), INTRODUCED BY **PATRICK HENRY**, A FRESHMAN MEMBER WHO DIDN'T WANT TO LOSE HIS RIGHTS BEFORE SOPHOMORE YEAR.

MEANWHILE, THROUGHOUT THE COLONIES, CITIZENS CHANTING "LIBERTY AND PROPERTY," TOOK LIBERTIES WITH THE KING'S PROPERTY. (THESE RIOTS STARTED IN BOSTON, NATURALLY.)
9

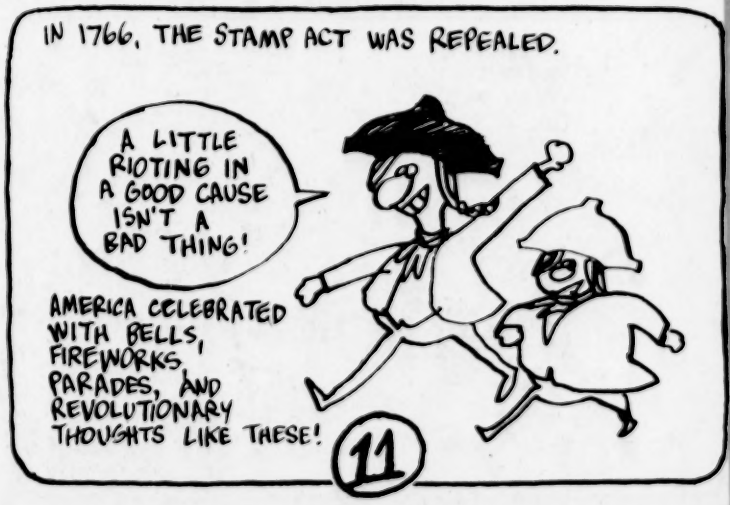
THE PROTESTERS CALLED FOR A TOTAL BOYCOTT OF ALL ENGLISH IMPORTS. FOR EXAMPLE, ANYONE SUITED IN ENGLISH WOOLENS WOULD BE COATED IN AMERICAN TAR AND FEATHERS.

COLONIAL WOMEN SPUN LIKE MAD – THEIR WHEELS, THAT IS – TO KEEP THEIR FAMILIES IN HOMESPUN, AND OUT OF TAR.

JUST EXACTLY AS PLANNED, THE BOYCOTT HIT ENGLISH BUSINESS RIGHT IN THE POCKETBOOK.

SOON, THOUSANDS OF SQUEALING, WOUNDED POCKETBOOKS WERE BEGGING PARLIAMENT FOR RELIEF.

IN 1766, THE STAMP ACT WAS REPEALED.


A LITTLE RIOTING IN A GOOD CAUSE ISN'T A BAD THING!
AMERICA CELEBRATED WITH BELLS, FIREWORKS, PARADES, AND REVOLUTIONARY THOUGHTS LIKE THESE!
11

SOMEHOW FAILING TO GET THE MESSAGE, PARLIAMENT IN 1768 PASSED A NEW TAX, THE "TOWNSHEND DUTIES," ON VARIOUS IMPORTS INTO THE COLONIES. THE HEAD CUSTOMS HOUSE WAS INTELLIGENTLY LOCATED IN BOSTON, WHERE IT WOULD BE SURE TO PROVOKE THE MOST VIOLENCE.

AFTER THE INEVITABLE RIOTS, BRITAIN SENT IN THE TROOPS, CALLED "LOBSTERBACKS" AFTER THEIR RED COATS, OR POSSIBLY THEIR CHITINOUS CARAPACES.

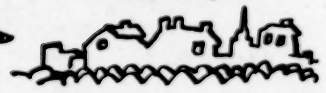
FACED WITH A CROWD HURLING ICEBALLS AND EPITHETS, THE SOLDIERS DISCHARGED THEIR DUTY AND THEIR WEAPONS, KILLING FIVE: THE "BOSTON MASSACRE."

12

THE AUTHORITIES NERVOUSLY REMOVED THE TROOPS... AND SCRAPPED THE TAXES— AGAIN. BUT THEY KEPT ONE LITTLE TAX—ON TEA—JUST TO PROVE THE POINT.

SO THE BOSTONIANS, DISGUISED AS INDIANS, DUMPED A SHIPLOAD OF TEA INTO THE DRINK—A TEA PARTY FOR THE FISH.

AS WASTING TEA WAS HIGHLY UN-BRITISH, THE REDCOATS RETURNED TO CLOSE THE PORT UNTIL THE STUFF WAS PAID FOR... AND BOSTON FELL UNUSUALLY QUIET..



13

THE ONLY SOUND WAS THE SCRITCH SCRITCH, SCRITCH OF A QUILL, AND THE OCCASIONAL MUFFLED CURSE AS IT BLOTTED THE PAGE... BUT TO WHOM WAS IT WRITING?

TO THE

COMMITTEES OF CORRESPONDENCE,

WHICH CORRESPONDED ONLY WITH EACH OTHER.

ORIGINALLY THEY WERE CREATED BY SAMUEL ADAMS AND JOHN HANCOCK. ADAMS WAS THE BOSTON PROTEST MOVEMENT'S MASTERMIND, WHILE HANCOCK WAS ITS MASTERCHARGE ACCOUNT. "SAM ADAMS WRITES THE LETTERS AND JOHN HANCOCK PAYS THE POSTAGE," WENT THE SAYING. WHO LICKED THE ENVELOPES IS ANYBODY'S GUESS.

14

AT FIRST, THE COMMITTEES WERE ONLY IN MASSACHUSETTS, BUT THE IDEA SPREAD TO ALL THE COLONIES. SOON, GROUPS OF CITIZENS EVERYWHERE WERE SWAPPING REVOLUTIONARY TIPS, LIKE BRITAIN'S LATEST HEINOUS DEEDS, AND HOW TO WASH BLOOD OUT OF YOUR SHIRT.

SO—AFTER THE TEA PARTY, SAM ADAMS KNEW WHERE TO WRITE!

15

THE BOSTON TEA PARTY WAS FOLLOWED BY THE GREENWICH (N.J.) TEA PARTY, THE NEW YORK TEA PARTY, SEVERAL CHARLESTON (S.C.) TEA PARTIES, THE PROVIDENCE (R.I.) TEA PARTY, THE ANNAPOLIS TEA PARTY... SERIOUS POLLUTION!!

27 GATE FIVE ROAD SAUSALITO CA 94965

AFTER SOME TIME, THE COMMITTEES OF CORRESPONDENCE DEVELOPED WRITER'S CRAMP AND DECIDED TO MEET THEIR PEN PALS FACE TO FACE IN PHILADELPHIA...

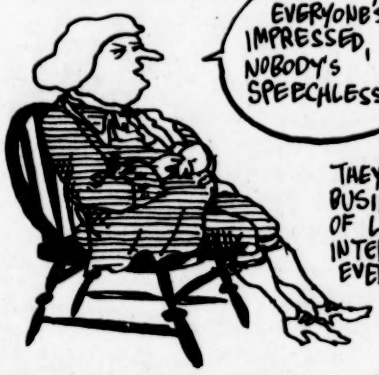
AT A

CONTINENTAL CONGRESS.

ALL THE BIGGIES WERE THERE: PATRICK HENRY, GEORGE WASHINGTON, SAM ADAMS, HIS COUSIN JOHN ADAMS, JOHN HANCOCK, BENJAMIN FRANKLIN. IT WAS OBVIOUSLY A **H**ISTORIC **O**CCASION, AND EVERYONE WAS DEEPLY IMPRESSED, OR AT LEAST SOMEWHAT BENT OUT OF SHAPE.

(ESPECIALLY THRILLED WAS BEN FRANKLIN, WHO HAD PUSHED COLONIAL UNION AS EARLY AS 1754 WITH THIS CARTOON.)

16



THEY QUICKLY GOT DOWN TO BUSINESS, WHICH CONSISTED OF LOTS OF PARTIES WITH INTERESTING TALK IN THE EVENING, FOLLOWED BY INTERMINABLE SPEECHES DURING THE DAY.

BETWEEN NAPS, THEY DREW UP A **D**ECLARATION OF **R**IGHTS (TOGETHER WITH A **B**ILL OF WRONGS), A **P**ETITION OR TWO, AND AN **I**NVOICE FOR MORE TAR AND FEATHERS.

FINALLY, THEY DECLARED THE CONGRESS A MOST REFRESHING EXPERIENCE AND AGREED TO DO IT AGAIN NEXT YEAR.

17

MEANWHILE, WITH THE TROOPS STILL IN BOSTON, MASSACHUSETTS TOWNS BEGAN DRILLING THE MINUTEMEN, REVOLUTIONARIES WHO COULD BE READY TO FIGHT IN THE REVOLUTION OF A SECOND HAND.*

DISTURBED BY THE INCESSANT DRILLING, SOME REDCOATS MARCHED INTO THE COUNTRYSIDE ON THE NIGHT OF APRIL 18, 1775.

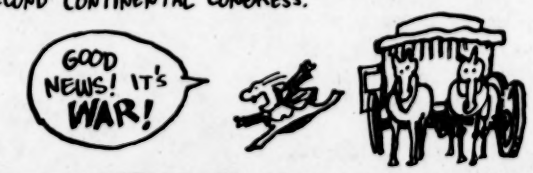
IN LEXINGTON, THEY WERE SURPRISED TO FIND NOT DENTISTS BUT MINUTEMEN. THE BRITISH FIRED, THE YANKS SCATTERED, AND SAM ADAMS AND JOHN HANCOCK, AT A NEARBY HOTEL, WOKE UP. IT WAS CHAOS AT 3 A.M.

18

A FEW HOURS LATER, AT THE BATTLE OF CONCORD, THE BRITISH POLITELY FLED, IT BEING THEIR TURN, AND HURRIED BACK TO BOSTON WITH HALF OF NEW ENGLAND IN PURSUIT.

* THIS WAS BEFORE DIGITAL WATCHES.

ADAMS AND HANCOCK HURRIED TO PHILADELPHIA AND THE SECOND CONTINENTAL CONGRESS.



BUT HOW TO GET CONGRESS TO SUPPORT A MASSACHUSETTS BATTLE? IN THE BACK ROOMS, JOHN ADAMS WORKED THE DEAL: A VIRGINIAN WOULD COMMAND THE AMERICAN ARMY, WHILE MASSACHUSETTS' OWN JOHN HANCOCK WOULD BE THE (POWERLESS) PRESIDENT OF CONGRESS.

AND SO IT WAS THAT A SOUTHERN PLANTER, WHO HAD STARTED THE LAST WAR AGAINST FRANCE, TOOK COMMAND OF A NEW ENGLAND ARMY AGAINST BRITAIN. SOME SORT OF REVOLUTION, IT SEEMED, HAD BEGUN.

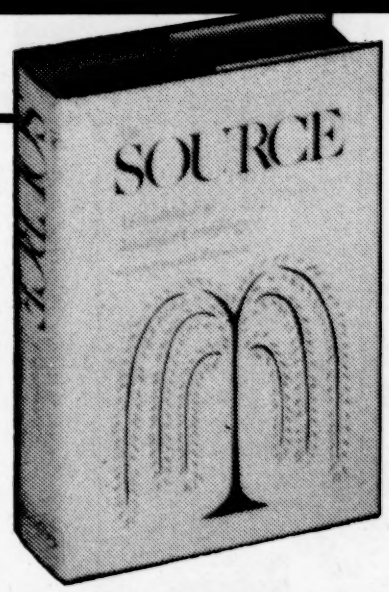
END

NEXT: HAPPINESS PURSUED, GUN IN HAND

The Source

BOB MITCHELL: Simply the best genealogy book to get if you want to buy only one. This mammoth handbook is the best all-purpose reference manual for both hobbyists and professional genealogists. It goes into great detail about where to look for records, and even where not to look. For instance, it tells you not to count on finding military records from 1912 to 1959 because a disastrous fire destroyed 80 percent of them in 1973. ***The Source*** *tells which files are left intact. The 16 experts who compiled the book also include specifics for the increasing numbers of racial minorities doing ancestral research, such as blacks and Asian-Americans.*

The Source
(A Guidebook of American Genealogy)
Arlene Eakle and Johni Cerny, Editors
1984; 798 pp.
$43.95
postpaid from:
Ancestry
P. O. Box 476
Salt Lake City,
UT 84110-0476



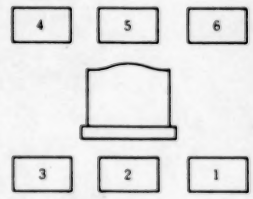
Russian settlement patterns.

•

If your ancestor lived in an urban area after 1800, check utility records: sprinkling systems, sidewalk widening, sewer, water, power, gas, garbage pick-up records. These are especially valuable for identifying addresses for immigrants who move from one part of the city to another as their economic conditions improve. Second-, third-, and fourth-class cities also keep these records.

•

In family plots, it is frequently possible to determine family relationships from the relative position of the graves. Usually the dominant couple or parents are in the center with a large stone while children have smaller stones. Positioning of graves can also indicate national origins. Scandinavians seem to position plots with the father in the lower right-hand corner (1), the mother next to him (2), with children and spouses (3-6) placed in order of death clockwise around a large stone bearing the family name.



Sketch of Scandinavian grave arrangement.

Ancestry's Catalog

KEVIN KELLY: Start here at the beginning of your search for your family's history. They've got the tools — books, software, and indexes. You bring the persistence.

Ancestry's Catalog
Free from:
Ancestry
P.O. Box 476
Salt Lake City, UT 84110

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Ship Passenger Lists, *by Carl Boyer III.* Mr. Boyer's four volumes are important finding aids for all who seek to identify the origins of an immigrant ancestor. *Ship Passenger Lists* include annotated comments for printed lists, reproductions of those out-of-print or foreign publications, and reprinted journal articles and personal name indexes. These books are painstakingly edited and will be of immense value to genealogists for many years to come. 6 x 9 each. $20 each (members $17.00 each).

Tending the family tree . . .

FAMILY ROOTS • Quinsept

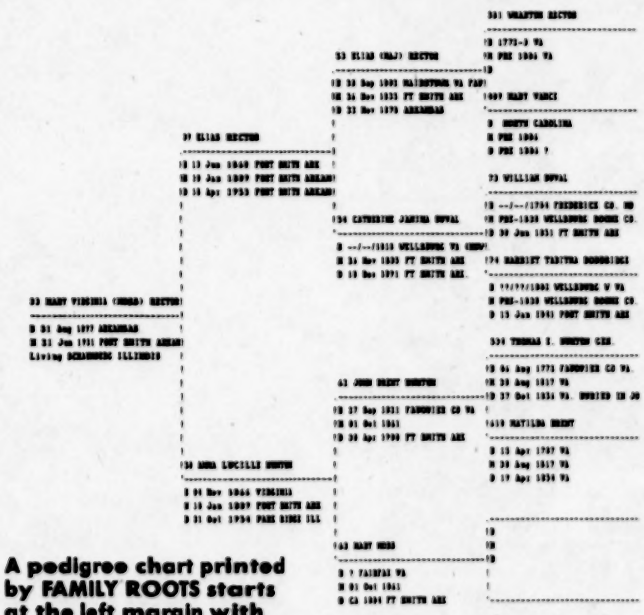
FAMILY ROOTS: Steven Vorenberg. Not copy-protected. $185. Most CP/M machines (64K); most MS-DOS machines (96K-256K); Commodore 64; Apple II family. Quinsept, Inc., P.O. Box 216, Lexington, MA 02173; 617/641-2930.

Quinsept Newsletter: Bob Mitchell, Editor. $15/year (6 issues). Quinsept, 102 Broadfield Lane, Spotsylvania, VA 22553.

KEVIN KELLY: Remember those old riddles that go something like this: If Harry is Tom's brother-in-law, and Tom is Bob's father, and Bob is Harry's uncle, then who is Harry? This kind of headscratcher is commonplace when you're trying to map out a family tree. If there was ever a problem begging for a personal computer, then this is it. In fact computers are rejuvenating the field of amateur genealogy, enabling anyone to keep track of the hundreds of mathematical relationships that make up their family tree.

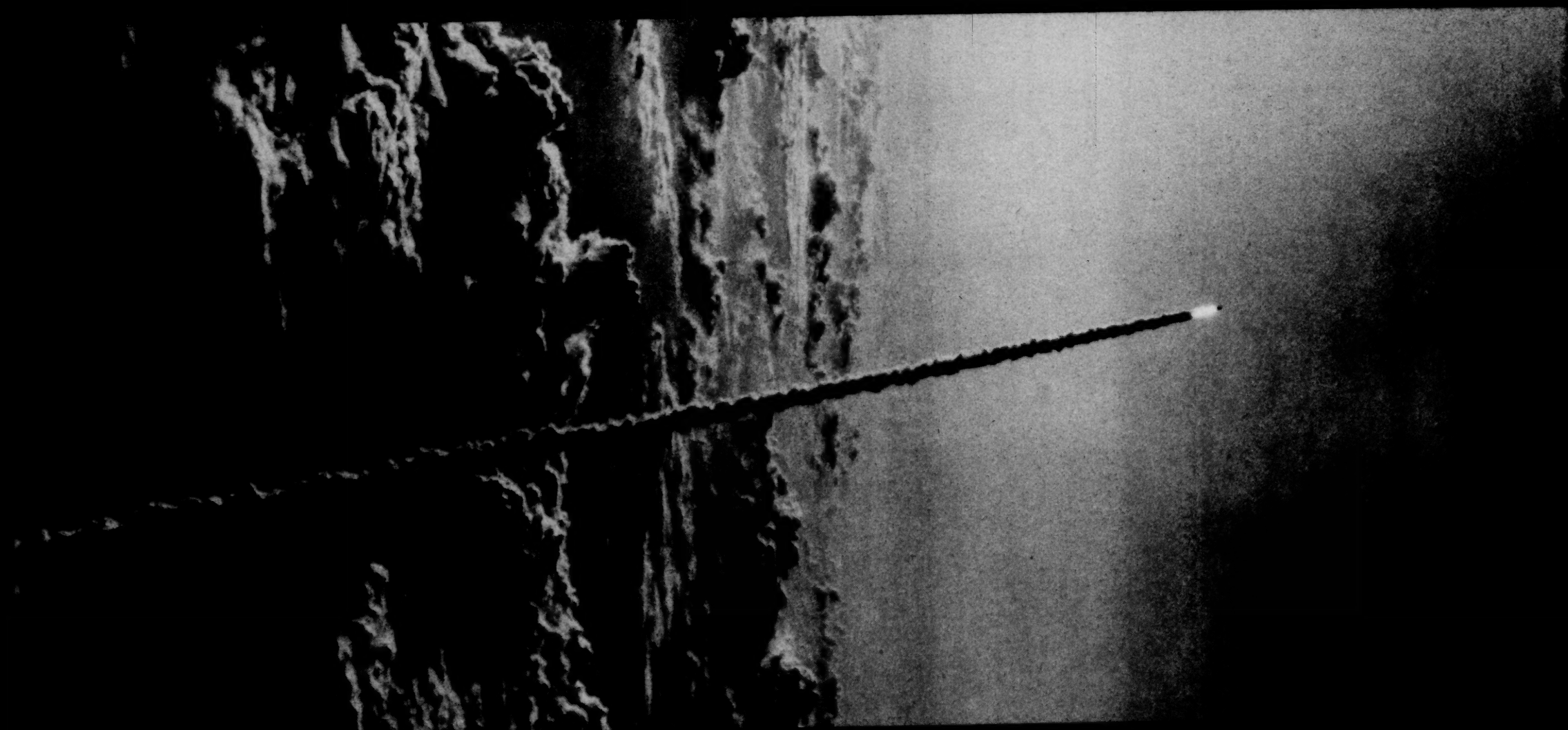
The apex of genealogy programs is FAMILY ROOTS. It organizes and stores information about your ancestors, then prints out pedigree charts in several different formats — predecessors, descendants, or family groups. You can update, correct, or regroup lineages without having to erase and redraw your diagram. A nice benefit is that you can take, say, your Uncle Joe, and have a chart printed out with him in the center. Now he's all inspired to take some time and write down what he knows about his mom's brothers.

Dog and horse breeders also use the program to trace lines of genes. An agreed standard called GEDCOM will allow users of any genealogy software to swap files with each other, so that if you have an ancestor named McDonnald you can tack on someone else's McDonnald tree to your genealogy database. There's an independent FAMILY ROOTS users' newsletter, Quinsept, that offers wonderful support for these projects.



A pedigree chart printed by FAMILY ROOTS starts at the left margin with your subject; the person's ancestors regress chronologically to the right. For multi-generational charts you can choose a compressed format to keep your tree on one page.

ART INTO SPACE



NASA

Artists are using space technology to launch aesthetics into orbit

by Robert Horvitz

When I get into space I'm going to spend my time looking out the window, daydreaming and doodling. Like the rebellious crew of Skylab 3 *that mutinied against the unceasing technical chores from ground control, you can forget about me twirling dials. There are better things to do away from Earth. Roving* WER *art editor Robert Horvitz, based in Washington, D.C., rounded up this gallery of human extraterrestrial art-in-progress.*

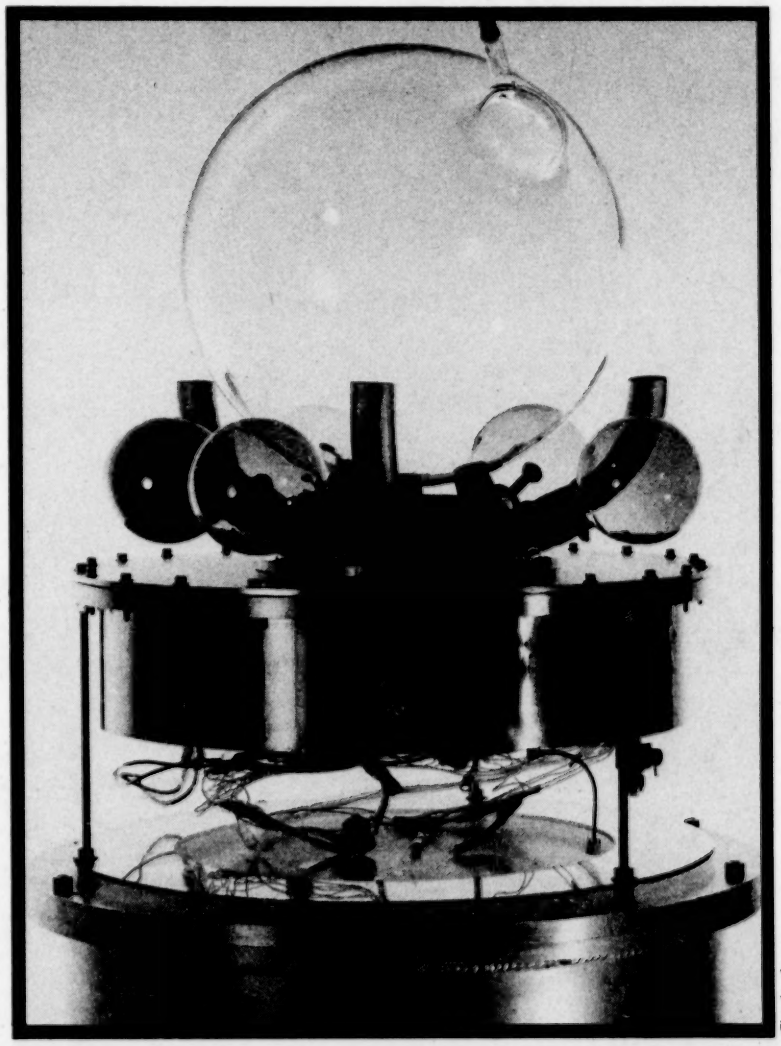
—Kevin Kelly

JUST AFTER 7 A.M. ON OCTOBER 5, 1984, the space shuttle *Challenger* blasted off from Kennedy Space Center in Florida. As usual, it had a variety of payloads in its cargo bay, including a trash-can sized canister mounted unobtrusively along a side-wall. Known to the flight crew simply as "Payload G-38," this padded aluminum cylinder held the elements of the first art sculptures to be fabricated in space.

Among other things, "G-38" contained a clear glass globe about 14 inches in diameter, fitted with a flexible stainless-steel tube and a valve. It left the Earth filled with 22 liters of sea-level air at sea-level pressure. In orbit, the valve was opened for several days by the payload's control system to establish equilibrium between the globe and its environment. The sphere came back to Earth with 22 liters of ultra-thin upper atmosphere. Now permanently sealed, it is attached to a vacuum gauge with digital readout. The gauge is sensitive enough to show moment-to-moment changes in the pressure-difference between the space vacuum inside and the pressing atmosphere outside of the sphere.

Joseph McShane, the artist responsible for "payload G-38," says, "The sculpture then is not the glass, but the outer space contained within. The sphere serves only to keep the one-g Earth atmosphere from intruding." Its presence gives the air around it presence by contrast.

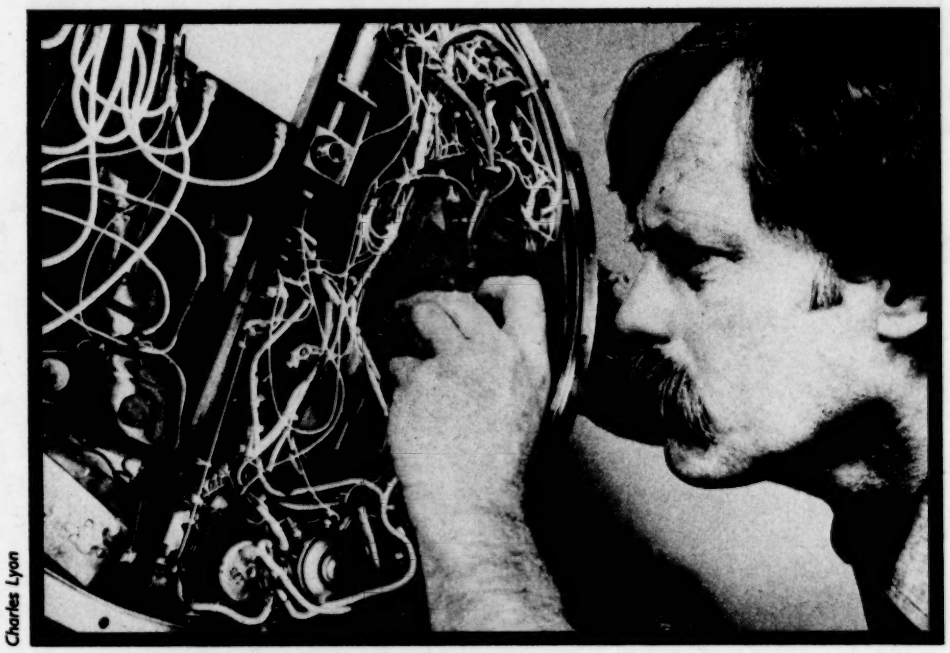
A different daring space sculpture project is planned for launch early next year. Joe Davis, a fellow at MIT's Center for Advanced Visual Studies, and colleague Eric Begleiter intend to orbit a high-power electron gun in an attempt to create an artificial aurora. The device is now being built with



Charles Lyon

Joseph McShane's high-altitude artwork, "Payload G-38" (partially assembled). Not visible is the tube and exit-vent for the large glass sphere, and the cylindrical container provided by NASA. Three of the smaller spheres fit onto the curved tubes emerging from the large sphere's support. Wires from the control system hang underneath.

High above the Kennedy Space Center and the Florida Atlantic coastline, the space shuttle Challenger heads toward its second Earth-orbital mission. The orbiter, with its two solid rocket boosters and external fuel tank, is just a tiny dot atop the rapidly-lengthening plume of steam. This scene was recorded by astronaut John W. Young, piloting the shuttle training aircraft for his traditional weather-monitoring flight.



Charles Lyon

Artist Joe McShane adjusts the control system of "Payload G-38" before final assembly and launch.

NASA

First jazz solo in space? Astronaut Ronald E. McNair improvises while floating in mid-deck of Challenger, February 1984.

help from MIT's High Voltage Research Laboratory. The equipment is donated by a growing list of small high-tech companies. If all goes as planned, a narrow ten-kilowatt beam of electrons will shoot down from the shuttle's cargo bay nearly a hundred miles to the denser layers of the ionosphere, causing them to glow. There are still too many unknowns to predict how this will look from the ground, but it may resemble a faint, streaky, luminous cloud that brightens and fades with the pulsing of the beam. It would only be visible at night, of course, in clear, dark skies along the shuttle's flight path. Davis calls the project "New Wave Ruby Falls" — alluding to Ruby Falls, Tennessee, site of an artificially-lit underground waterfall advertised as a tourist attraction on roads throughout the South.

Artificial aurorae have been created before, using rockets to release chemicals in the upper atmosphere, and the shuttle has already flown large electron guns for other purposes, but Davis' proposal is quite novel. Most space researchers initially doubted that it was even possible. That he has been able to convince so many that it is not only possible, but environmentally safe and scientifically worthwhile, is testimony to his persistence and to the magic of the idea itself. "Ruby Falls" fires the imaginations of many people and has gotten a fair deal of media coverage. This has been essential to the project, attracting donations of equipment, skills, and labor from those inspired by what Davis is trying to do. (If you are so inspired, you can contact him c/o the MIT Center for Advanced Visual Studies, 40 Massachusetts Ave., Cambridge, MA 02139.)

Davis has another, less dramatic payload, "Lightflight," which is being put together by students at the Rhode Island School of Design, and which may fly before "Ruby Falls." A small but very bright strobelight mounted in a

GAS (Get Away Special; see *WER* #45, p. 26) canister will be aimed down at the Earth. The purpose of the investigation is to try to resolve uncertainty about the minimum point-brightness that can be seen by the unaided human eye, and to test the practicality of using this kind of lamp for optical signalling from the orbiting shuttle to observers on the ground. A subsequent mission would have the light beam modulated with slow-scan television images, and eventually he hopes to flight-test a two-way Earth/orbit light link.

To be able to work in space, Davis, like McShane, has had to cast his art in the mold of science in order to qualify for the GAS program. Davis says, "NASA would neither qualify nor disqualify a project simply because it contained or pertained to a work of art, though clearly if the artistic and scientific aspects of such a payload could be at all separated, then NASA would fly the science and not the art. Here integration of the sensibilities was as important as integration of the hardware."

Since Davis and McShane both want their work to "integrate the sensibilities" anyway, this has not been a problem for them. But not everyone shares this aim. What about those who would like to use space for creative projects that are not even remotely scientific?

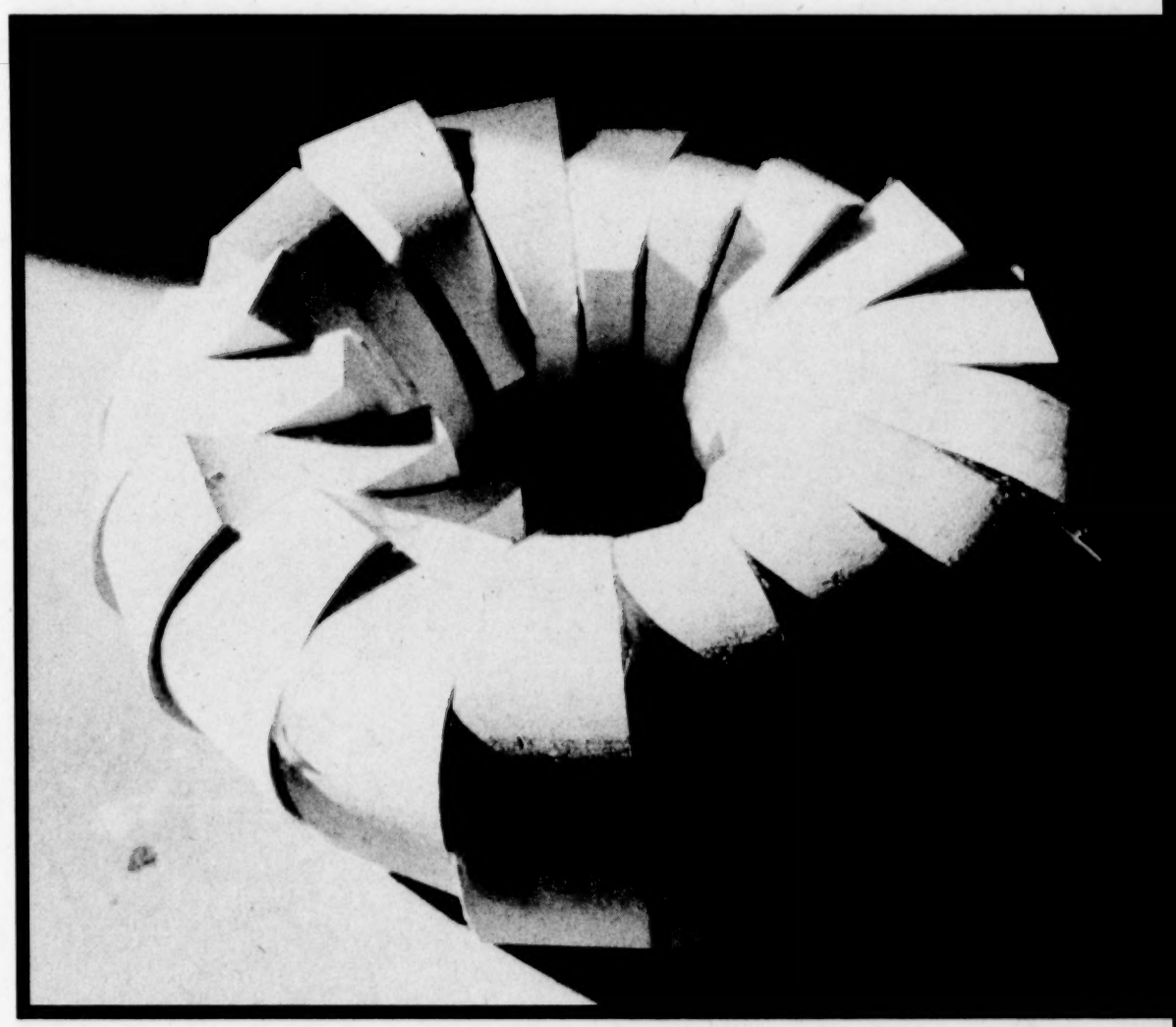
Consider Lowry Burgess (head of the graduate program at Massachusetts College of Art in Boston and also a fellow at MIT CAVS). For years he has been trying to get permission from NASA to put a piece called "The Gate Into Aether" over the Pacific:

"'The Gate Into Aether' is a ring form of ice consisting of 18 sections of frozen waters taken from the mouths of 18 great rivers throughout the world (Mississippi, Congo, Columbia, Ganges, St. Lawrence, Danube, Rio Grande, Indus, Rhine, Tigris-Euphrates, Amazon, Yang Tzu, etc.). These rivers are combined in pairs with other waters from springs, waterfalls, geysers, glaciers, and wells . . . between each of the frozen sections are sonic holograms (wave fronts of sound captured in light) of the ecstatic singing of plants, animals, and people."

As Burgess envisions it, the ice-ring, measuring about 18 inches in diameter, would be taken out of a refrigerated container by a shuttle crew-member and gently placed over the Pacific by hand: a crowning. The ice would sublime (evaporate without melting), leaving the holograms to flutter down into the atmosphere like leaves, burning completely during reentry:

"As if animated by a surprising impulse waters were from all over the world . . . gathered face to face and mouth to mouth: memory of the world as water . . . welded by a chill rapture of song lifted into high and absolute silence at the rim of the world . . . released, sublimed as crystals, as the sun scatters the starry night in a diasporal seeding of the streams in air, an infinitesimal rain . . ."

Until recently, NASA forbade the deployment of solid objects from GAS canisters, even when they were sure to disintegrate quickly. (That's one reason why Davis chose to work with electromagnetic rays, and McShane, sampling containers.) More to the point, Burgess sees the gesture of placement by a human hand as important to the symbolism of his piece. But NASA won't allow any extravehicular-activity time to be spent in support of a GAS payload. Even if they did, he would still have to convince them that the ice ring can be safely handled and deployed. That may be harder than it sounds: unless all gases dissolved in the waters are purged before freezing, it could erupt when exposed to sunlight and vacuum, hurling the sharp-edged holograms every which-way. Careful engineering can probably dispel the safety issues. The main problem, though, has been that "The Gate Into Aether" just isn't scientific or technical research by any stretch of the imagination. Rather than disguise that fact, or redefine the project to fit the requirements of the GAS programs, Burgess has been trying to get NASA



Janet Burgess

These molds for Lowry Burgess' space project entitled "The Gate Into Aether" are carved out of basswood. The finished artwork released into space will be of ice cast from these molds prior to launch. Each of the 18 forms is different in shape, with profiles made of parabolic and hyperbolic segments, adjoined around the ring in a twisting moebius sequence.

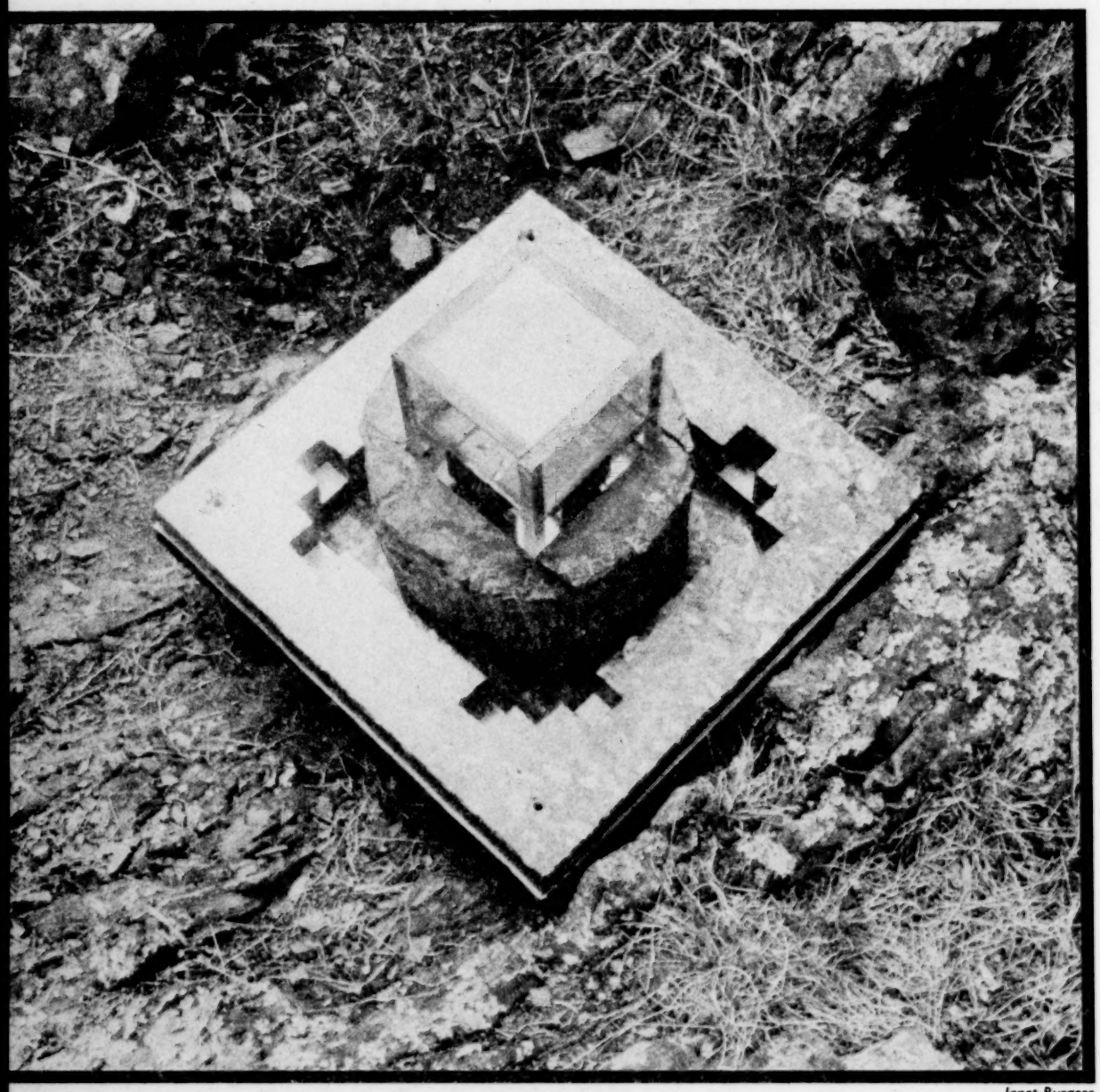
27 GATE FIVE ROAD SAUSALITO CA 94965

to change its policies to allow the shuttles to carry nonscientific payloads. On August 31, 1984, they did so.

Under the new rules, nonscientific payloads are eligible for flight on a "space available" basis — that is, after all scientific and technical payloads have been accommodated. Formal flight requests must be accompanied by a processing fee of $1000. They're first screened for safety, feasibility, compliance with regulations, etc., then must be approved by a Nonscientific Payload Evaluation Committee composed of high-level NASA administrators. The basic flight fare is just under $1500/pound, plus "integration" fees figured on a case-by-case basis for handling, installation, etc. From the *Federal Register* (August 31, 1984, pp. 34445-34447):

"No payload will be accepted for flight which is inconsistent with NASA's mission or otherwise not in the national interest. No human or animal life will be permitted in a nonscientific payload. Nonscientific payloads will not be permitted to operate as free flyers [untethered satellites] . . . all nonscientific payloads will be returned to Earth aboard the same STS flights that carry them into orbit . . .

"NASA specifically reserves the right to reject nonscientific payloads proposed — or which appear to be proposed — solely or primarily for the purposes of advertising, publicity, endorsements, or other means of promotion."



Janet Burgess

"The Boundless Cubic Lunar Aperture" by Lowry Burgess. This winter the space shuttle will carry into orbit only the raised central cube. When it returns, it will be fitted inside a cylindrical log of petrified sycamore, which fits inside a magnetized cubic chamber "scattered with dry dust of human blood, the ash of burnt sycamore wood, and the burnt residue of the waters of the Gate Into Aether," says Burgess. The magnetized chamber is covered with blocks of bronze, smoky lead glass, and blue pearl granite, organized in layers that match the grain of the rock strata in which the piece will be imbedded.

These rules still preclude work like "The Gate Into Aether": nothing solid can be left in orbit. "In addition," says NASA, "we do not wish to increase the number of space objects that reenter Earth's atmosphere."

Recently, however, Burgess filed a flight request for another piece called "The Boundless Cubic Lunar Aperture." This one does not require waiver of any regulations or pose safety problems. Approved by the committee this past spring and tentatively scheduled to fly by the end of the year, it will be the shuttle's first fare-paying nonscientific payload.

The form and symbolism of "The Boundless Cubic Lunar Aperture" are too complex to describe here in full, but the basic structure is that of two sets of boxes-within-boxes — one to be installed near the DeCordova Museum in Lincoln, Massachusetts, the other to be put someday in the crater Korolev, on the far side of the moon. The two sets refer to each other by approximately inverting each other's nesting order. The outer surface of the terrestrial set is tiled with small blocks of bronze, blue pearl granite, and smokey lead glass; the innermost cube is a vacuum lined with "holograms of nothing" (six exposed but blank glass plates). The innermost cube of the lunar set will be made of the bronze, granite, and glass blocks; its outer surface, exposed to the lunar vacuum, will be covered with holograms of visionary scenes: a foot splashing in water, a hand metamorphosing into a tree covered with wings instead of leaves.

Only the 5" x 5" x 5" core of the Earthly set will fly on the shuttle, says Burgess: "a cubic pressure chamber which contains all the chemical elements, solid, liquid, and gaseous. This chamber also contains the purified waters of 'The Gate Into Aether'. In this pressurized and elemental vice floats a further cubic vessel framed with its six holograms of nothing, a cubic vacuum."

When the core returns from orbit, the remainder of the terrestrial piece will be built around it. Completely assembled, it will be imbedded in an outcropping of 300 million-year-old rock a few miles from Walden Pond. (The crater Korolev was chosen as the complementary site because some of the moon's oldest rock is thought to be exposed there.)

Burgess' work is closer in spirit to alchemy than to science, a kind of material poetry. There is no logical justification for its soon-to-be-unseen heart to spend a week in orbit before being interred, but each component of the "Aperture" has undergone a processing ritual in an appropriate, usually out-of-the-way, place: the waters from "The Gate Into Aether" were distilled on the edge of the Dead Sea, the "holograms of nothing" were exposed in a cold, lightless cave under the crater of an extinct volcano. The ride into space will link the inside of the terrestrial cubes to the outside of the lunar cubes. "'The Aperture'," says Burgess, "is a labyrinthian keyhole through Void, framed in fractured and fused cancellations, a dread knot." Arcane, serendipitous, it represents a kind of thinking that NASA has never been able to accommodate before, but which in fact imposes very little burden on their operations.

McShane, Davis, and Burgess have not run into any problems with NASA on the issues of personal gain and publicity stemming from their spacework. This is a subject on which the agency is known to be sensitive, however. One incident in particular made them wary.

A Dutch artist, Paul Van Hoeydonck, persuaded NASA to let the *Apollo-15* astronauts place a small sculpture of his on the moon in 1971. Titled "The Fallen Astronaut," the satin-finished milled-aluminum figurine was left on the lunar dust with a plaque listing all of the astronauts or cosmonauts who had died during previous space missions. This simple tableau is a tasteful and poignant tribute to those who gave their lives in the early days of space exploration, yet it is virtually forgotten today — in part, no doubt, because NASA disapproved of the way Van Hoeydonck's gallery capitalized on the event. "FIRST ART ON THE MOON" was the bold headline of the full-page ads the Waddell Gallery placed in leading art magazines, offering 950 copies of the figurine, each one signed and "similar in the most exact detail to the sculpture on the moon," for $750 apiece (950 x $750 = $712,500).

It's uncertain how they would react to a similar event today. Astronauts have been reprimanded for carrying postage stamps and souvenirs into space for private sale on Earth. Van Hoeydonck got permission to have "The Fallen Astronaut" left on the moon, but it isn't clear if NASA knew about the 950 clones or the marketing plans ahead of time. They still forbid the use of launch services simply to create souvenirs.

On the other hand, this is the era of Reaganomics, of space commercialization, of public assets being used to foster private enterprise. How this will affect the Nonscientific Payload Program remains to be seen. The rule barring payloads that "appear to be proposed . . . primarily for the purposes of . . . publicity [and] promotion" shows there are limits to what NASA will tolerate in the way of orbiting attention-grabbers — though there's no prohibition in the rules against payloads being launched for financial gain.

Profit may prove to be the most common motive for nonscientific shuttle projects in coming years, but that isn't why NASA created the program. "We began to look seriously at developing a nonscientific payload policy because of inquiries from members of the arts community," recalls Tony Maull, the evaluation committee's executive secretary. "People like Joe Davis and Lowry Burgess and others who were using very modern materials and techniques. We saved all of these proposals, waiting for the day when we finally got the shuttle operating and on a reliable schedule, and as that day approached, we went through our files and tried to figure out how we could best accommodate the people who wanted to send up nonscientific payloads. We really had mainly artists in mind, because their representations had been the most vigorous and the best thought-out . . .

"I think that all of us at NASA are clearly aware that what motivates the American people to support the space program — and it is their program, not a hobbyshop for us — isn't just for the reasons of science and engineering, but perhaps as important, for the reasons of poetry, the spirit of adventure. We're moved to be off [the Earth] for reasons that are probably harder for engineers to understand than for artists. We're not going to get involved with judgments of artistic merit. We just want people to know that the door is open now for concerns that go beyond science and engineering."

For information about how to submit proposals for nonscientific shuttle payloads and current prices, contact:

Customer Services Division
Code MC
Office of Space Flight
NASA Headquarters
Washington, DC 20546 ■

NASA

"The Fallen Astronaut," left on the moon. It is a milled-aluminum figure measuring approximately 1¼" x ¾" x 4", created by Paul Von Hoeydonck. It was left on the moon with a plaque listing the 14 astronauts and cosmonauts who died prior to the Apollo-15 mission, August 2, 1971.

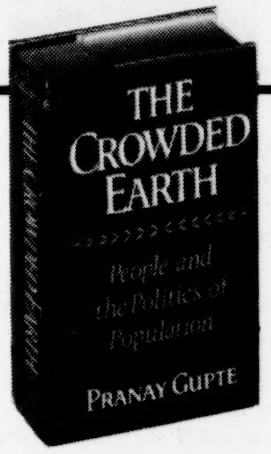
The Crowded Earth

*STEPHANIE MILLS: **The Crowded Earth** is a comprehensive update on the world population situation. It treats the population problem not abstractly as the "natural" increase in human numbers, but as the consequence of demographic impacts, for instance the migrations of guest workers from poor countries to western Europe and the Persian Gulf states. (In his extensive travels among villagers in the Third World, author Gupte repeatedly encountered the persistent myth of urban promise — a tragically mistaken belief that jobs and a better way of life may be found in the wildly burgeoning cities there.)*

To set population policies in context, Gupte gives brief descriptions of the political climates of the specimen countries he visited in a brisk, clean, predictable, and middle-of-the road style. His conclusions have a double edge. It's now clear that seriously undertaken population control programs can reduce birthrates. The existing human population, however, is so enormous that any growth stems from a huge base and portends more doublings of our numbers. At present there are 4.6 billion of us. Gupte writes: "If the current population growth rate holds up, and it is likely to, the world will have 9 billion people by the year 2030." Aaargh.

The story is partly told in specifics, glimpses of people's lives and of individuals making decisions, however well or poorly informed. Gupte's research yielded countless vignettes and interviews, all of which coalesce into a picture of the present impossibility of rescuing millions of people from absolute poverty, and an argument for vigorous support of population control programs to stabilize our numbers and buy time to help humanity and the planet.

The Crowded Earth
Pranay Gupte
1984; 349 pp.
$18.95
postpaid from:
W.W. Norton
500 Fifth Avenue
New York, NY 10110
or Whole Earth Access



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It is said that the new immigrants are pushing Cairo's annual population growth rate beyond 7 percent. Abutting the "City of the Dead" — I would call it the "City of the Living Dead" — is the dilapidated Khan el Khalili neighborhood, where population density is already a frightening 142,000 per square kilometer, or roughly 1.4 persons to every square foot.

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So minutely is Chinese socialist society organized that no aspect of an individual's life goes unobserved, especially in rural brigades and communes. Pressure is applied on couples to restrict themselves to only one child not only through family-planning cadres in neighborhoods but also through the work units of both husband and wife. When Chien Che tells me that he will not renege on his commitment to have only one child, at the back of his mind surely is the knowledge that if he and his wife were to have a second child the family income would automatically be deducted through a 10 percent penalty. If Chian were to get pregnant, peer pressures on her to get an abortion would be instant, enormous, and irresistible. In the final analysis, it does not matter how many children Chinese like Chiang and Chien want — they will be allowed no more than one child.

Co-op America
• Catalyst Newsletters

*JAY KINNEY: We're probably overdue to give mention to Co-op America, a worthy venture which embodies many of Whole Earth's preoccupations over the last decade. Co-op America is simultaneously a cooperative mail-order business spotlighting many small-scale, socially conscious firms and products; a membership organization offering group health and life insurance to its members; and the publisher of a new quarterly magazine, **Building Economic Alternatives**, which presents some eminently sane information on putting one's money to positive use. A number of the products offered through their twice-yearly catalog have been previously reviewed in **CQ/WER**, and if there was ever an organization developed with our readers in mind this would seem to be it. While I wouldn't counsel joining on our say-so, it is worth dropping them a line for fuller information. If Co-op America can continue to grow during Reagan's reign (current membership is approximately 16,000) things may not be quite as dark as they usually seem while reading the morning paper.*

*Speaking of good places to put one's money, the Center for Economic Revitalization, publishers of the important newsletter about socially-conscious investing, **Good Money** (**CQ** #38, pp. 90-93), have supplemented that publication with two more worthwhile newsletters. **Catalyst: Investing in Social Change** is published on alternating months with **Good Money** and focuses on profiles of small progressive businesses and organizations seeking loans and investors. **Netbacking: The Shareholders' Forum** is a quarterly report that encourages networking between readers of the other two newsletters, in the form of announcements and free ads. All three publications are now offered in a single subscription.*

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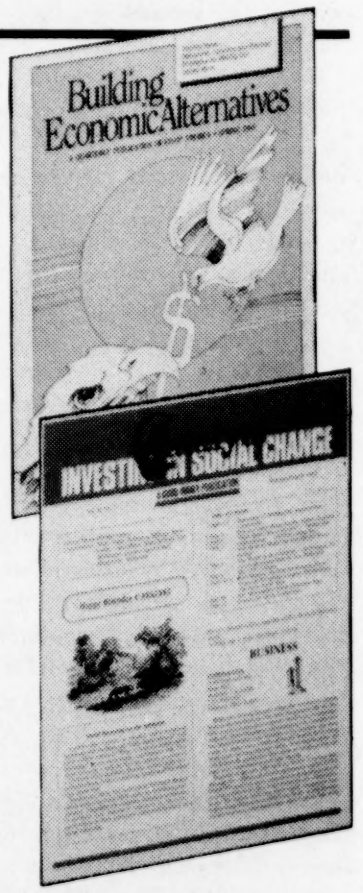

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"Every worker at People Express is a manager. There is no classification of an individual who is not a manager. We run a company that this year will do about $600 million in volume without having one secretary. I answer my own phone and I hand write my own letters. Needless to say, I don't write much." —Donald Burr, Chairman.
— Building Economic Alternatives

Third World Quarterly

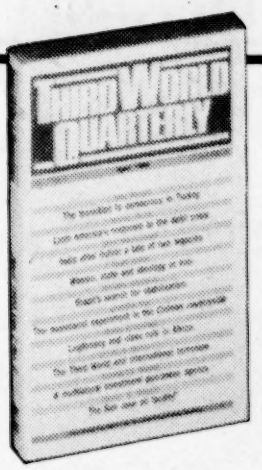
*JAY KINNEY: **Third World Quarterly**, as its name implies, provides knowledgeable quarterly assessments of current affairs in Third World countries. The articles and copious book reviews are generally rendered from a viewpoint sympathetic to the developing countries, and offer far more insight than you're likely to find in most mass media. The good, grey, citation-laden style may be off-putting to nonacademics, but it is no worse than that found in other important scholarly policy journals. A special section of the journal titled "North-South Monitor" succinctly summarizes the dozens of UN, IMF, OAU, OPEC, and other organizational meetings held each quarter. If you crave more facts on the transition to democracy in Turkey, the state of women in Iran, the Latin American debt crisis, et al., this is the place to look.*

•

The Iranian religious establishment has sought to justify polygamy both on historical and religious grounds. Women are told that the practice of polygamy in Iran and Arabia long preceded Islam. All the Koran has done is to ratify this process and curb it by insisting that men should treat all wives equally. It is stressed that in times of war polygamy is the only viable solution for protecting young widows and female orphans who, in the absence of a welfare state and non-availability of paid employment, would clearly not be able to fend for themselves, domestic creatures that they have become.

In the eyes of the clergy, the deaths and mutilations of hundreds of thousands of young men in the Iran-Iraq war . . . has made polygamy all the more essential. The state is unable to provide an adequate pension for war widows, and merely provides a small dowry and a lot of encouragement for them to remarry. Men are urged to 'show excessive generosity', *issar*, and marry war widows, albeit polygamously, to 'protect' their honour and that of the society.

Third World Quarterly
Atlaf Gauhar, Editor
$20/year
(4 issues)
postpaid from:
South Publications
230 Park Avenue
Suite 319
New York, NY 10169



The Sixties Papers

JAY KINNEY: Once upon a time, long ago, I used to informally divide everyone I met into two categories: those who had dropped acid and grown their hair out — and those who hadn't. In retrospect I'm not sure exactly what this categorization achieved besides a certain smugness on my part, but at the time such "Them vs. Us" thinking was the rule of thumb and did provide a shorthand way of determining whether we were likely to be speaking the same language or not.

*Since few political organizations, countercultural institutions, or spokespeople have survived the intervening years since the Sixties, we've mostly been left with chronicles of the decade from "them" sources like Time-Life books. Such histories tend to play up the Sixties' colorfulness and styles while shortchanging the ideas and theories which underpinned the mass movements. **The Sixties Papers**, edited by long-time activists Stew and Judith Albert, helps even out this historical imbalance.*

*Following the editors' concise 60-page summary of the key events and variegated rebellions of the Sixties, the book gets down to business with nearly 500 pages of "the Movement's" most influential speeches, essays, manifestos, and outpourings. The reader is able to chart the course from Allen Ginsberg's **Howl** to SDS's **Port Huron Statement** to H. Rap Brown's **Die Nigger Die!** to Robin Morgan's **Goodbye to All That**, with dozens of stops in between. Because the strong emotions associated with so many of these documents have subsided with time and distance, rereading them now offers new insights into the largely unconscious assumptions which fueled so much of our anger.*

Peppered between the texts are several dozen classic photographs of the era, many of them by Alan Copeland, which add some necessary tactile grit to all the pages of print. At the very least this book is going to provide a lot of college courses with an outstanding supplementary textbook. But more than that, I think this is an anthology that most anyone can pick up, jump around in, and spend many an engaging hour with. Dylan counseled "Don't Look Back," but I'd make an exception in this case.

•

I never understand the radical who comes on TV in a suit and tie. Turn off the sound and he could be the mayor!

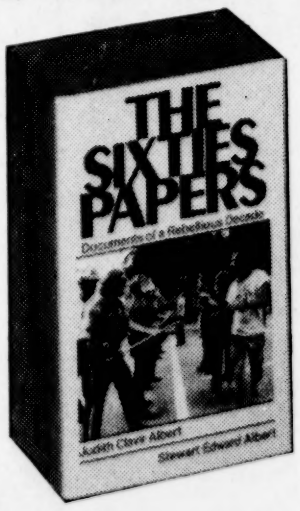
The *words* may be radical, but television is a non-verbal instrument! The way to understand TV is to shut off the sound. No one remembers any words they hear; the mind is a technicolor movie of images, not words.

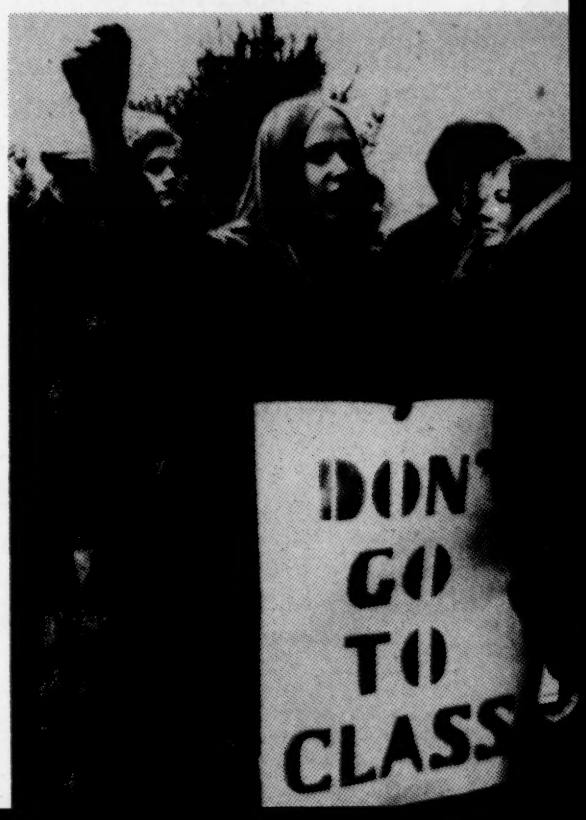
I've never seen "bad" coverage of a demonstration. It makes no difference what they *say* about us. The pictures are the story.

Our power lies in our ability to strike fear in the enemy's heart: so the more the media exaggerate, the better. When the media start saying nice things about us, we should get worried.

— Jerry Rubin, *Do It!*, 1970

The Sixties Papers
Judith & Stewart
Albert, Editors
1984; 574 pp.
$17.95
postpaid from:
Praeger Publishers
521 Fifth Avenue
New York, NY 10175
or Whole Earth Access





"Columbia Liberated" offered the student striker's official version of the 1968 campus revolt. The strike's militancy was reflected in the SDS August 1969 pronouncement, "Bring the War Home." Reprinted from the organization's national newspaper, New Left Notes, the pronouncement was SDS's angry call to street confrontation in Chicago during the opening days of the Conspiracy Trial.

LIVING

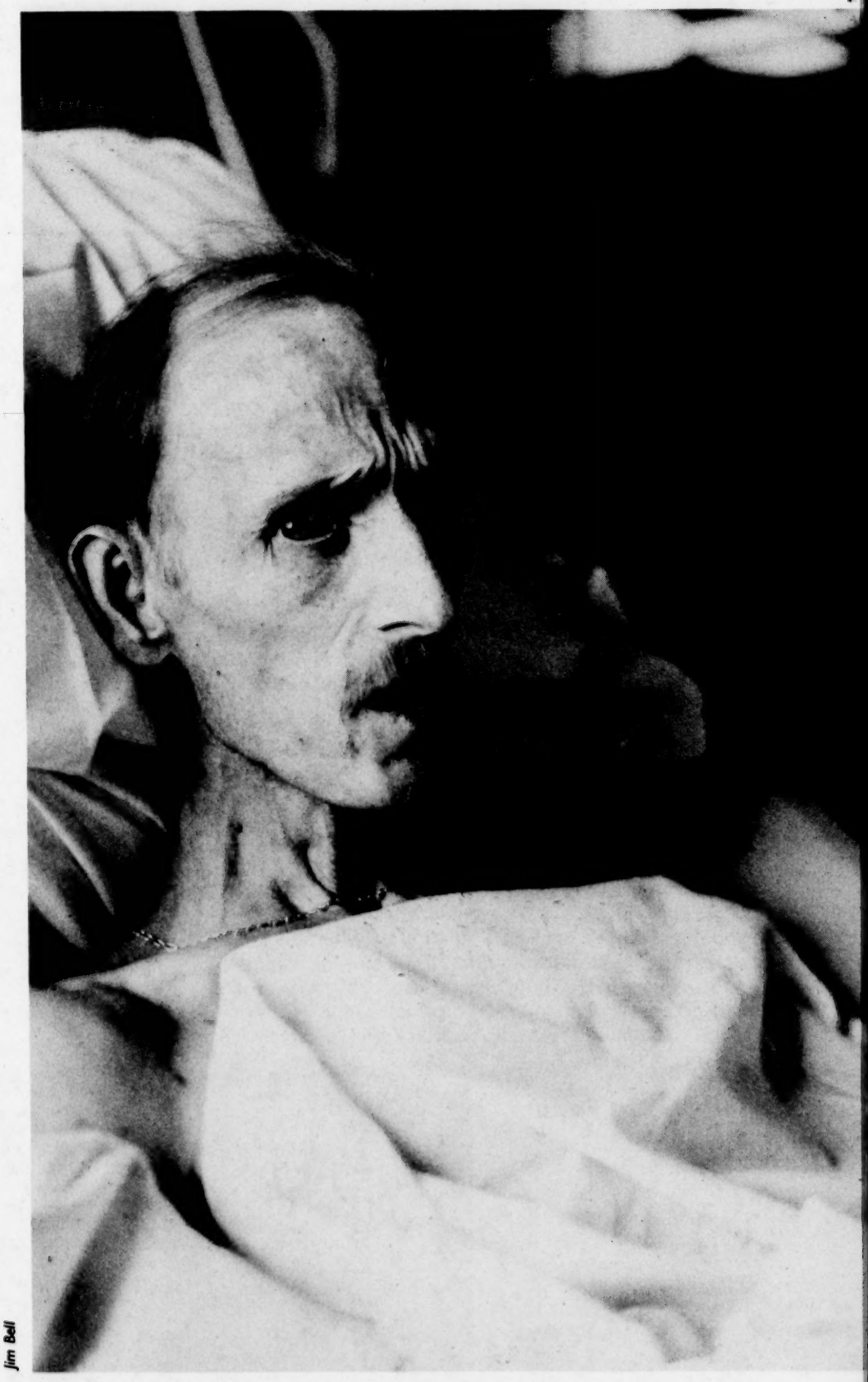
Far more than simply a homosexual disease, this plague will soon touch one million lives.

by Matt Herron

The mild-mannered detective pursuing the culprit in this mystery story is photojournalist Matt Herron. He's a good choice for the case, broadly expert where wide expertise is needed. A regular contributor to Smithsonian *magazine, Matt was the sole photographer for the three-day Hackers' Conference featured in* WER *#46. What's he going to do after this article? "I caught the intrigue of this bug," Matt says. "I'm devoting my time to uncovering the riddle of this puzzle, going to Central Africa if that's what it takes."*

Somebody should.

—Kevin Kelly



Jim Bell

Several weeks before his death in June 1985, AIDS victim Joseph is comforted by a hand and foot massage from Irene Smith, a San Francisco Hospice massage therapist.

WITH AIDS

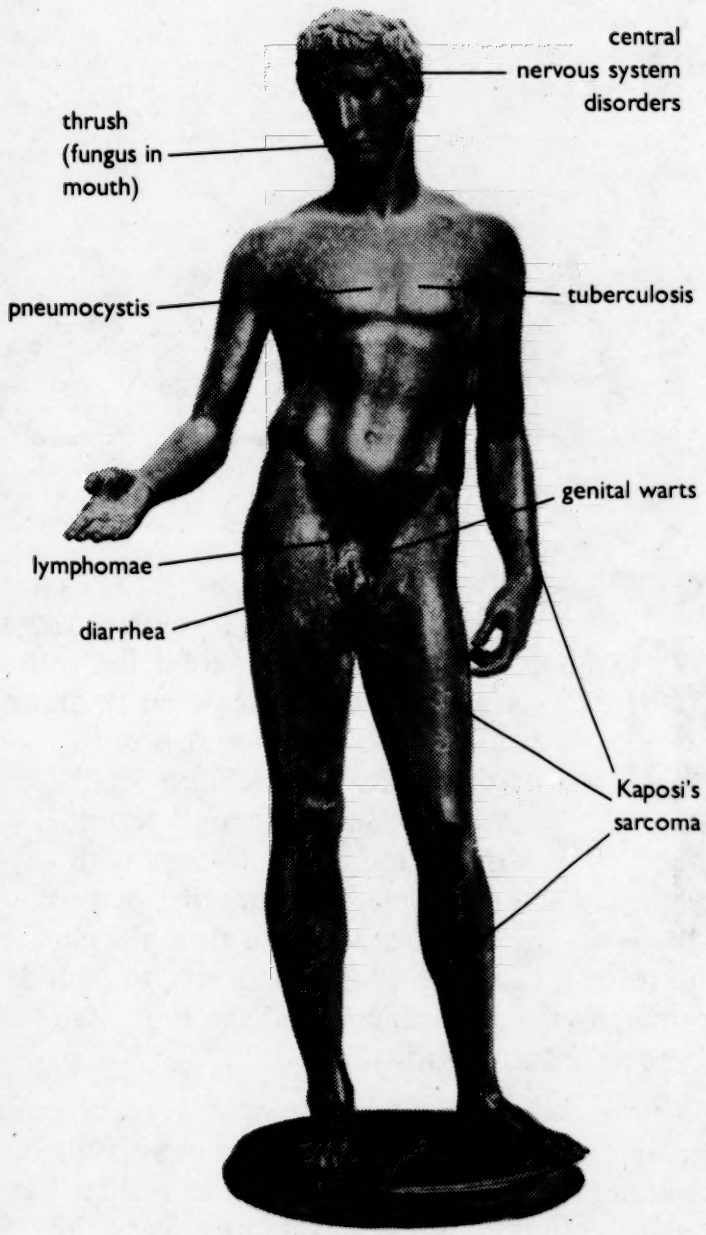
EARLIER THIS YEAR, a friend began telling me extraordinary stories about clients of hers who were dying with AIDS, the deadly Acquired Immune Deficiency Syndrome. A hospice worker, Martha Freebairn-Smith devotes herself to helping terminal patients and their kin cope with dying. In recent years the focus of her work has shifted from the elderly and infirm, death's traditional clients, to include young gay men, inhabitants of San Francisco's homosexual community.

Martha's accounts of young men dying with courage and self-possession caught me powerfully and I began to think about AIDS and to realize that something quite unique was happening in this city; that the sudden arrival of this epidemic, spreading tragedy and terror as it traveled its exponential course, was also transforming some of those it touched in more positive ways.

Initially, however, the impact was devastating for San Francisco, where AIDS has achieved its highest incidence rate for single men in the world: 205 cases in every 100,000, the equivalent of death rates for heart disease or cancer; it has already carried off nearly 5000 Americans.

As one writer put it: "An unidentified disease mysteriously focuses on one group. This group, of which you are a member, is a minority.

"Your friends are becoming ill and are dying ugly and painful deaths. Even the ringing of the telephone is no longer a friendly sound: it may be bringing yet more painful news. You watch yourself daily for symptoms. People in the general population are becoming frightened of catching the disease from you. The government shows a curious lethargy in response to what has, within two years, become one of medical history's most enigmatic major epidemics. There is talk of quarantine. ►



Some of the more pronounced symptoms of the Acquired Immune Deficiency Syndrome (AIDS).

"This disease has an incubation period that can be as long as three years, and large numbers of your group may have already contracted the dread disease without knowing it. Even the most healthy-looking people may be capable of transmitting the mysterious agent. Everyone is terrified."

Bobby Reynolds, one of the longest-surviving AIDS patients, describes what it is like to live with AIDS:

'You live with the possibility that you're going to die all the time. You wake up at three A.M. and you are congested, and there's this LUMP on your chest. Is this it? Is it going to happen to me now? A common cold is not life threatening, but it's hard to remember that."

AIDS was on everyone's mind. Men would develop all the symptoms of the onset of the disease: constant fatigue, swollen lymph glands, continuous diarrhea, dramatic weight loss, night sweats; sometimes they would even manifest the purple skin lesions of Kaposi's sarcoma. They would go through all the emotional stress of expecting to die, only to find out they were not ill, their symptoms were entirely hysterical.

For those whose symptoms were real enough, the nightmare was just beginning. Some of them would eventually come down with full-blown AIDS. A majority would never get the disease, but their symptoms would persist indefinitely, and this was a particular kind of hell. Many of them would lose their jobs and their medical insurance, too debilitated to carry on a normal life, but not sick enough to qualify for most medical or financial assistance. The future was uncertain; they couldn't plan their lives, and often they couldn't support themselves. Sometimes they were forced to depend on the charity of friends or of the support groups that began to develop as the epidemic worsened. For these with AIDS-related condition (ARC), as it came to be known, a diagnosis of AIDS frequently came as a vast relief. The awful suspense was over, and now at least they could get decent medical care.

For healthy men the issue, of course, was avoiding the infection, which often meant changing their sex lives — not always an easy matter. For many gay men sexuality had become, among other things, almost a political statement of liberation — a statement that dated from a celebrated evening in 1969 when New York cops raided a Greenwich Village gay bar known as Stonewall, and touched off what amounted to a civil insurrection of homosexuals. Led mainly by drag queens, gays fought back for the first time in anyone's memory, battling cops in the streets of New York for 48 hours. Out of that eruption the gay liberation movement was born.

Its message was electrifyingly simple: It's OK To Be Gay. Across the nation closet doors began to open. Men who had lived in isolation and guilt began to experiment with openly avowing their sexuality, and with sexuality itself. In San Francisco and other urban centers, gay culture began to expand and to foliate. Gay arts, music, and theater flourished, businesses catering to gay taste sprang up everywhere in neighborhoods that began more and more to take on the character of homosexual villages. And with all of this came the exchange centers of gay sexuality: the bathhouses, bars, and adult bookstores. For those who had always felt bottled-up and oppressed, it was a heady time. It was a time marked by sexual openness and experimentation, by a feeling that anyone could walk into the candy store and have anything he wanted, nothing was tabu. While not everyone participated, the influence was felt by everybody. Recalling that period, a Castro Street bartender told me:

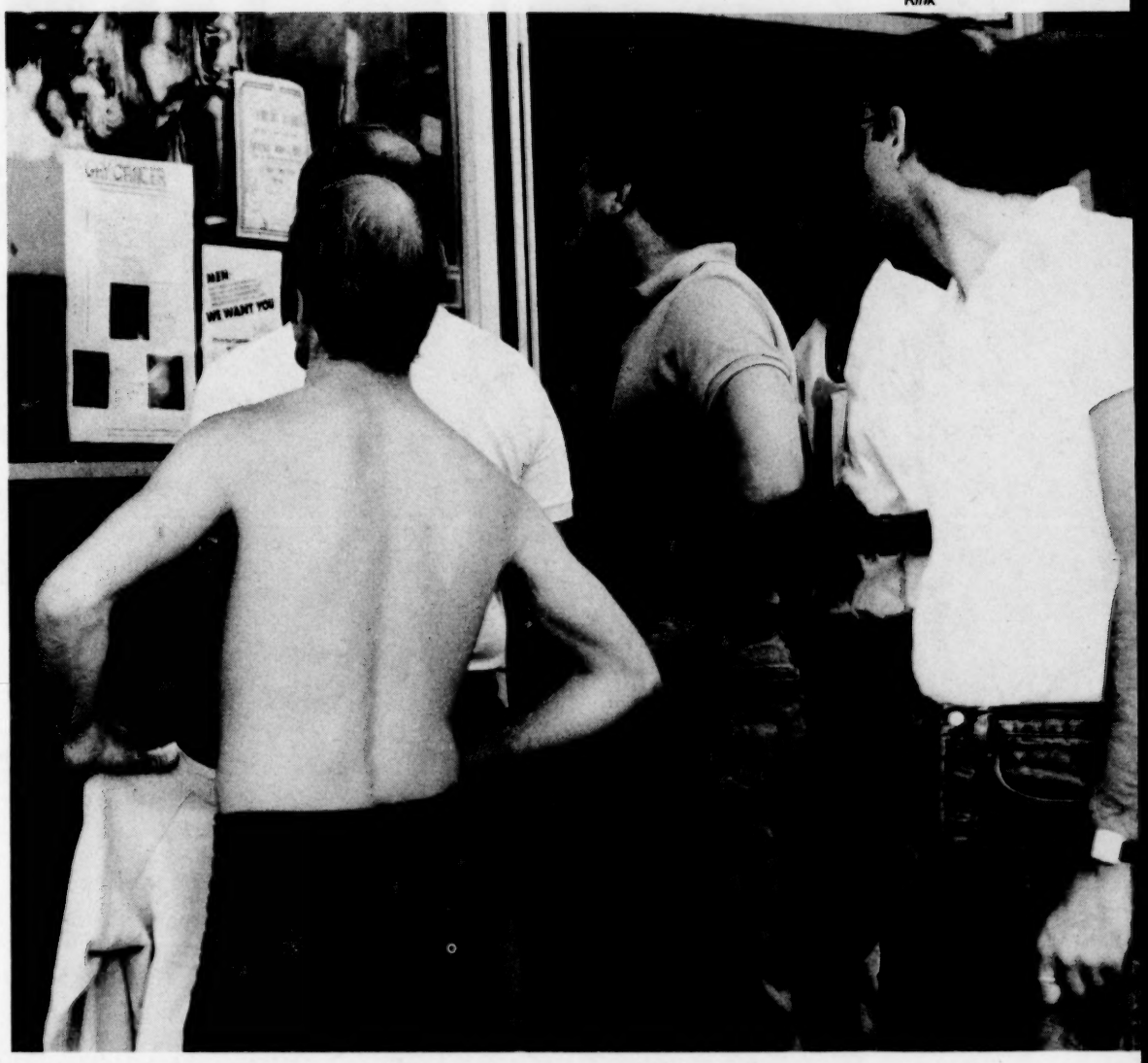
"I'll never forget the first really big Gay Freedom Parade. There were people up on the floats

doing things so outrageous I just couldn't believe my eyes — some of them were fucking right out there in the open. I said to myself, 'This is revolutionary.' It took my breath away, there was such openness to it."

But AIDS arrived and much of that began to go away; the doors of the candy store started to close. Dr. Scott Wirth, a gay psychologist with a good feeling for the psychic pulse of the community, told me:

"The expansiveness and experimentation of the '60s and '70s is changing very rapidly — old feelings of self-hatred are again being reinforced as people get away from openness. I sense a collective depression and frustration developing around the whole issue of expressing oneself. I'm not talking about excessive or unusual sex practices, but even the relatively traditional practices that most of us would consider the essence of homosexuality — practices like sucking, kissing, mouth-genital contact. You can't do any of these anymore without tremendous self-consciousness. It's so different to do something with the consciousness of death, as distinguished from illness."

Rink



At the Star Pharmacy, spring of 1982, on the corner of 18th and Castro Streets in the center of the gay district of San Francisco, a concerned crowd gathers around the first public announcement and description of "gay cancer," or "gay male plague," actually AIDS-induced Kaposi's sarcoma. The bulletin, done by volunteers, featured color photos of the disease's effects on friends.

As that consciousness increased gays began changing their sexual behavior. A survey commissioned last August by the San Francisco AIDS Foundation suggested that gay lifestyle has become a good deal quieter than anyone had assumed. Fully 86 percent of those surveyed said they had modified their sexual behavior in response to AIDS. More than 40 percent were now in completely monogamous relationships, another 13 percent were primarily monogamous, and 9 percent had become totally celibate. A third of all respondents said they had been celibate during the previous month. Another third, however, continued to engage in high-risk sex, and the majority of these (surprisingly) were professionals in their thirties earning over $25,000. An earlier study comparing changes over an 18-month period showed that gay men without regular partners, the highest risk group, had reduced the number of their sex partners from more than six a month to about four, and had cut the frequency of dangerous sex acts by half. Men in steady relationships had reduced the frequency of their coupling from about three times to twice a week, a figure not out of line with the sexual style of conventional married couples.

As sexual options closed down, gays began looking in other directions. Dr. Wirth sees a growing interest in programs that promote health and physical well-being. Participation in Alcoholics Anonymous and Narcotics Anonymous has mushroomed in recent months. (The largest contingent in a March for Lesbian and Gay Rights at the time of the Democratic Convention last fall was a group calling itself "Living Sober.") Gays are turning to programs of meditation, stress management, biofeedback, yoga, nutrition — all disciplines that improve the quality of life.

According to Dr. Wirth: "AIDS is inducing people, like it or not, to find a different part of themselves. Gay men have been very breadth oriented, boundary pushing, dedicated to expanding the limits of culture. The depth dimension is somewhat new. Some of that leads to the psyche. In Jungian terms AIDS is

Rink

San Francisco Mayor Dianne Feinstein meets with five volunteers for AIDS Prevention and Education Week in 1983 to endorse a proclamation in support of AIDS research and the just-forming AIDS Foundation. Since that time all the men pictured here have died of AIDS except Bobby Reynolds (center), who is presently active with the AIDS help-group Shanti.

contact with the dark shadow. I see the epidemic as a shadow problem at the community level, and also at the personal level where people have been acting out of rage against parents and repressive religious authority figures, but expressing that in self-destructive ways. We now have the opportunity to include illness, death, and dying more exuberantly in our lives and roles. It is a kind of unnatural opportunity. It would normally occur later in life, but as far as personal development goes, it is a very rich opportunity to look into all kinds of cosmic concepts. It may even bring a kind of accelerated development of wisdom in the individual."

One of the worst fears gays face is being isolated — rejected by family, the straight world, by friends. With AIDS that fear is doubled. Will a homosexual with AIDS become a pariah times two? At the community level, at least, the epidemic is actually having the opposite effect. There is such a sense of urgency and mystery about AIDS that people from a wide variety of communities have mobilized to fight it — medical, research, social service, etc. — and in the process have broken boundaries that might otherwise continue to stand. Historically, there has been tension between the lesbian community and gay men, but now lesbians are beginning to care for AIDS patients. Volunteerism has broken out everywhere. Gays are training as massage therapists to bring physical ease to people dying of AIDS. Others are working as home-care attendants and counselors in emotional support groups for AIDS patients. These commitments are not always easy, they require courage; many of these volunteers have chosen to look into the belly of the beast — to get close to people dying of a disease they themselves may already be incubating.

The activism probably began in San Francisco late in 1982. By spring of 1983, enough had been learned about AIDS for a small group of gay activists to begin getting the message out: AIDS is sexually transmitted. Beginning in a storefront, working 50 to 60 hours a week as volunteers, they expanded with the epidemic. In two years community efforts had proliferated to include a dozen or more agencies, public and private, offering a wide range of services to AIDS patients and the community. They included counseling and psychiatric service of all kinds for AIDS patients, their lovers and families; medical treatment at dozens of clinics and hospitals throughout the city; financial services and counseling; housing for the destitute; death and bereavement counseling; home nursing and attendant care; education programs aimed at informing doctors, gays, and the community at large about the dangers of AIDS, about guidelines for safe sex, about social and political issues raised by the epidemic. A special ward for AIDS patients was established at San Francisco General Hospital that was staffed largely by gay nurses, all of them volunteering for the assignment, and run with the interests of the patients predominant. So successful has Ward 5-B become that it is being studied as a model for special intensive-care wards nationally. The City of San Francisco coordinated many of these efforts and provided generous funds — nearly seven and a half mil-

lion in local dollars to AIDS programs in 1984. In 1985, it expects to spend eight million.

If there is a common thread running through this elaborate support system of medical care, counseling, research, education, and material assistance, it is the determination of virtually everyone involved not to let the institutions submerge or depersonalize the AIDS patients themselves. This care has developed, I think, because so much of the energy that brought these programs into being came from the gay community itself — from street activists and politicians, gay physicians, psychiatrists, and other professionals, and from AIDS patients, many of whom challenged the system by insisting on taking responsibility for their own treatment. Ward 5-B, for example, was conceived and developed by gay nurses. It reflects their approach to patient care and their personal and professional concern that the ward be an optimistic and humane setting for patients. 5-B is a place of parties, weddings, and sit-down candlelight banquets as well as optimal medical care.

Working with AIDS has been especially difficult for medical professionals. Trained to think of themselves as healers, they are unable to heal. And while most doctors and nurses develop a certain acceptance of death in the elderly and infirm, AIDS patients are their own age, speak with their accents, dress and look like them, many have attended the same universities. It is as if they themselves were dying, yet they can do nothing except make dying a little more comfortable. Small wonder so many have taken up the struggle with such dedication. At the same time, there are research grants to garner, and reputations to be made; and there is the mystery and fascination of the disease itself, for AIDS is one of the great medical head-scratchers of all time, a disease that has already revealed connections between cancer and the immune system, and that promises to yield great quantities of new knowledge before it is finally laid to rest. It is this search that we will now follow, a baffling, fascinating medical detective story that is unfolding day by day. It is the special irony of this disease that it both repels and attracts.

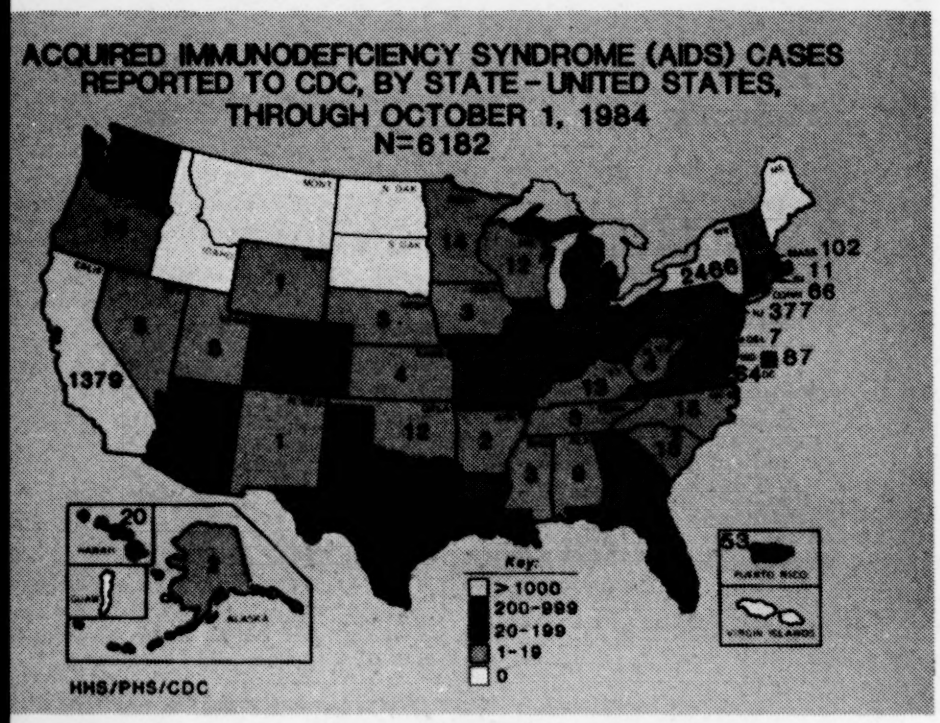
There's a pattern to this epidemic that seems very old — a whiff of ancient pestilence, of peasant huts, of people dying in darkness. Perhaps it feels old because we ourselves are so helpless to stop it — all our glittering science, our sophisticated medical technology, unable to save a single life. Epidemics go back a long, long time, back beyond Babylon and Nebuchadnezzar, back at least to the dawn of cities when the slow spreading infections of the countryside could finally catch fire and feed on densely packed populations. Until fairly recently the death rate in cities from epidemic and endemic diseases, poor sanitation, etc., was so high that no city could maintain its population level without continuous immigration from the countryside.

Historically, the pattern has been fairly constant: a new disease appears in a virgin population and it kills the vulnerable by the hundred-thousands, but the strong survive, develop immunity, and evolve to make the disease their own, until at last host and microbe learn to coexist amicably. Thus measles, a deadly killer of virgin populations, survives today in our experienced population as a mild childhood disease (it can still be deadly for adults). Likewise chicken pox, mumps, whooping cough. This partnership has always existed between men and microbes — a dance of death and change orchestrated by evolution.

Plague, however, is still as deadly as ever. It is thought to have existed for centuries in the Himalayan foothills between India and China, an infection of burrowing rodents that spread

The Great Plague in London in 1665, by Walter George Bell

The frontispiece from the report of the only known post-mortem examination of a Plague victim, made by Dr. George Thompson in 1666 in England. What he recorded was a multitude of blue and black spots containing congealed blood on all the organs of the body, the result of "toxic infection" and high fever.



Center for Disease Control

only when Mongol tribesmen or the likes of Marco Polo brought it home in company with the silks and spices to take root where commerce flourished: Constantinople, Venice, London — and then suddenly, all of Europe. Today, it is endemic in prairie dogs and similar ground animals throughout the United States, and will probably stay there — held at bay by good sanitation and public health practices. But one could imagine a new plague epidemic as an aftermath to nuclear war.

Polio played it backwards. Endemic in the United States as a mild childhood illness, it disappeared in the 1920s as cities began to clean up and purify their water supplies. Then as people's immunity disappeared, it came back to kill and cripple. Polio is a disease of affluence, the consequence of pure drinking water.

Only in the last forty years have we been able, with new drugs and vaccines, with sanitation and public health measures, to put the killers to rest. The current generation of doctors is the first to grow up believing communicable disease can be controlled. But now AIDS has come to humble us, to show us the old patterns are still virulent.

Unwittingly, we invited them back, inventing new cities with virgin populations ripe for epidemic. It started in the early '70s when homosexual men and women began flooding the urban centers — San Francisco, New York, Los Angeles. San Francisco's gay population increased by two-thirds during this period, eventually reaching 70,000, a new kind of city-within-a-city. Other centers grew comparably. But new population niches upset the ecology of disease. An epidemiologist, looking at this growing concentration of people, many of them dedicated to a sexual lifestyle that encouraged the wide propagation of sexually transmitted diseases, might have predicted the arrival of something like AIDS.

Early in the epidemic, in the summer of 1981, when epidemiologists at the Center for Disease Control (CDC) in Atlanta, the arm of the U.S. Public Health Service responsible for monitoring and responding to communicable diseases, were just beginning to map out the early course of the epidemic, they encountered a man now referred to as "Eric." Eric was gay, a Canadian who traveled a lot for his company. He'd been diagnosed with Kaposi's sarcoma eight months previously, but he felt healthy, and nobody had told him KS might be infectious — cancer is not considered to be so and AIDS was then unknown — so he continued his travels and his active sex life. And everywhere that Eric went — San Francisco, Los Angeles, New York, Providence, Fire Island — AIDS was sure to follow. Eric was literally a Typhoid Mary of the AIDS epidemic — many of the early cases could be traced back to him. But he was not alone. In this mostly young, affluent, sexually adventurous, travel-loving population there were others like Eric, and AIDS spread like wildfire; but a hidden fire, a conflagration that was well alight before anyone knew it was there. With an incubation period as long as two to five years or more (recent calculations suggest fourteen years!), and with symptoms disguised as a variety of diseases, AIDS arrived silently, doubling its scope every six months (it is now doubling yearly).

Today 400,000 to one million Americans are thought to harbor the AIDS virus. What portion of this number will actually come down with the disease is still unknown (estimates range from 5 percent to 25 percent), but so far more than 10,000 have developed AIDS. The *Journal of the American Medical Association* in a recent editorial predicted 40,000 cases of AIDS in two years! "With a mortality rate that, two years from diagnosis, exceeds 80 percent," the editorial intoned, "this illness now ranks as one of the most serious epidemics confronting man in modern times." And one of the most expensive. Each of those 40,000 predicted cases will cost an average of about $50,000 from diagnosis to death. That amounts to $2 billion in additional health care costs in two years' time.

As the name implies, AIDS is not a specific disease, but a syndrome — an immune deficiency that is acquired (some immune deficiencies are inherited), and that opens the body to a host of cancers and opportunistic infections. As defined by the Center for Disease Control,

AIDS is the appearance in an otherwise healthy person of a major opportunistic condition such as Kaposi's sarcoma or pneumocystis carinii pneumonia (PCP) — indications of a serious depression of the immune system where there exists no other obvious cause such as prolonged illness or use of immuno-suppressive drugs. AIDS patients die, not of their immune deficiency, but of the infections that result. But the underlying cause — the immune disorder itself — is almost certainly the result of a virus.

The AIDS virus is spread through the direct exchange of bodily fluids, primarily blood and semen, and sexual intercourse in many of its manifold variants is the most common avenue of transmission, the risk being directly related to the number of sex partners and the frequency of contact. This is true for both heterosexual and homosexual transmission of AIDS, but homosexual practices, sometimes involving multiple partners and the exchange of blood as well as semen, have spread AIDS with particular swiftness.

Not all sexual practices are equally dangerous. There is evidence that the receptive partner (the woman or receptive partner during anal intercourse) is at much greater risk than the male (penetrating) partner. Receptive anal intercourse may be a particularly easy way to get AIDS. The walls of the rectal lining, the mucosa, are one cell thick and have been described as having approximately the strength of a wet paper towel. They can easily be damaged during anal intercourse, offering a ready entrance for the AIDS virus into the bloodstream, carried either by sperm or by blood from an injury to the penis. Some practices are particularly perilous. "Fisting" — inserting the entire hand into the rectum and balling it into a fist — is a great danger to the rectum, threatening not only AIDS infection but peritonitis — an extremely serious infection of the abdominal cavity.

Even when no tissue damage is done, it is easy for sperm carrying the AIDS virus to get into the bloodstream during anal intercourse. Sperm are specialized for cell penetration — their job, after all, is to penetrate the corona of the ovum and fertilize it. The epithelial cells of the vagina are fortified against just such an invasion, but not so the rectum; sperm pass its thin walls readily. This may explain in part why, five years after discovery, AIDS has still not become a major heterosexual disease. It simply may be harder to transmit heterosexually. One Danish study examined the families of 14 hemophiliacs who had all been infected by the AIDS virus from American clotting concentrate. Only one of 35 individuals examined showed evidence of the virus, and she was the only female sexual partner who practiced anal intercourse. Eight other women who practiced oral and vaginal intercourse were unaffected. But this does not imply that women are protected.

Several other studies show that it is easier for women than men to get AIDS through heterosexual intercourse. In one study of 50 AIDS cases among the heterosexual partners of intravenous drug users, fully 46 of the victims were women. Yet AIDS strikes men and women equally in Africa. Will the same happen here? No one really knows, although there is evidence that the epidemiology of AIDS in Africa is quite different. In the United States, heterosexual transmission currently accounts for less than five percent of AIDS cases. The *Journal of the American Medical Association* predicts the majority of cases will remain in the current high-risk groups with a slow spread to the general population.

Short of sex and intravenous drugs (rock 'n' roll is not suspected), AIDS is pretty hard to get. Although the virus has been isolated from the saliva of AIDS patients, there is not a single proven case of AIDS transfer due to

AIDS Safe-Sex Guidelines

by Bay Area Physicians for Human Rights

Safe Sex Practices

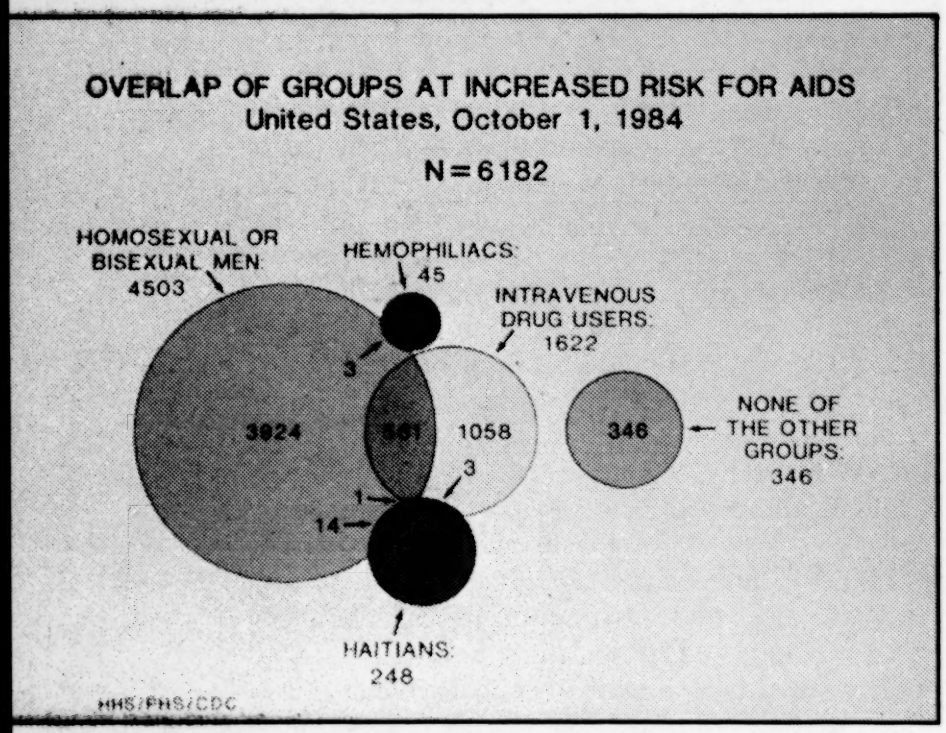
- Massage, hugging
- Mutual masturbation
- Social kissing (dry)
- Body-to-body rubbing (frottage)
- Voyeurism, exhibitionism, fantasy

Possibly Safe Sex Practices

- French kissing (wet)
- Anal intercourse with condom
- Vaginal intercourse with condom
- Sucking — stop before climax
- Cunnilingus
- Watersports — external only (urine on body)
- Risk increases with multiple partners

Unsafe Sex Practices

- Rimming (oral-anal contact)
- Fisting
- Blood contact
- Sharing sex toys or needles
- Semen or urine in mouth
- Anal intercourse without condom
- Vaginal intercourse without condom



Center for Disease Control

saliva. And because AIDS is not an airborne infection, it can't be transferred by casual contact like colds or flu. It is probably OK to share a kiss or a cup with an AIDS patient. It is certainly OK to share the same bus, bar, restroom, office, or phone booth. Nothing will happen. Consider the experience of all the thousands of hospital workers who have been caring for AIDS patients since 1981, often working up to their elbows in every excretion the body can produce. Not uncommonly nurses and lab technicians jab themselves accidentally with an AIDS-contaminated needle. Yet there is not a single proven case of any hospital worker acquiring AIDS through patient contact; none have even tested positive for antibodies to the AIDS virus. A recent study of 200 hospital workers who stuck themselves with AIDS-infected needles backs this up. In one instance a lab technician at San Francisco General Hospital stuck herself with a needle infected with both AIDS and hepatitis B. She tested positive for hepatitis but not for AIDS.

If sex is the most common way of spreading AIDS, exchanging blood and blood products carries the highest risk of infection. Intravenous drug users who share needles run that risk. So have hemophiliacs who must artificially bolster their clotting mechanism by injecting a clotting agent known as factor VIII. Until recently, the processing methods of blood banks made it possible for each dose of factor VIII to represent the combined blood products of as many as 20,000 donors, not all of whom could be effectively screened for AIDS. Although hemophiliacs make up only a small percentage of total AIDS cases, this has not been much consolation to the severe hemophiliac. His chances of getting AIDS have been better than one in two hundred. Now that risk should drop considerably; new processing methods have made it possible to "pasteurize" factor VIII to eliminate the AIDS virus.

The Center for Disease Control, which publishes weekly morbidity and mortality reports for all communicable diseases in the U.S., lists groups at risk for AIDS by patient characteristics:

1) Gay and bisexual men 73%
2) Intravenous drug users 17%
3) Heterosexual contact 1%
4) Hemophiliacs and other recipients of infected blood products 2%
5) No apparent risk characteristic and "unknown" (includes Haitians) . . . . . 7%.

While the total number of AIDS cases has increased dramatically over the past two years, the distribution of cases among these five groups has remained remarkably consistent. But even that is open to challenge. The CDC employs what they call a hierarchical presentation for listing AIDS cases by patient characteristics, that is, a person who fits in more than one risk group is lumped with the most populous group, the other group is ignored. Thus the CDC lists gays at 73 percent and IV drug users at 17 percent of total AIDS cases, but has no listing for gays who are also IV drug users — they are classified as gays only. An insignificant number, one might suppose. But according to Harold Ginzburg of the National Institute on Drug Abuse who studied the first 2000 AIDS cases, nearly 9 percent were both gay/bisexual *and* IV drug users. In other words, to get a true picture of the degree to which AIDS strikes these two risk groups, the 9 percent should also be added to IV drug users. That is the way the New York City Health Department does it in a city where more than a third of all AIDS cases are attributable to IV drug use. If the CDC followed suit, we would learn that IV drug users make up by inference fully a quarter of all AIDS cases nationally. Is this just record-keeping or does it matter? Probably it does. In the world of science, funds and research often follow the hottest issues, and therefore we probably have learned less about this important matter than we should.

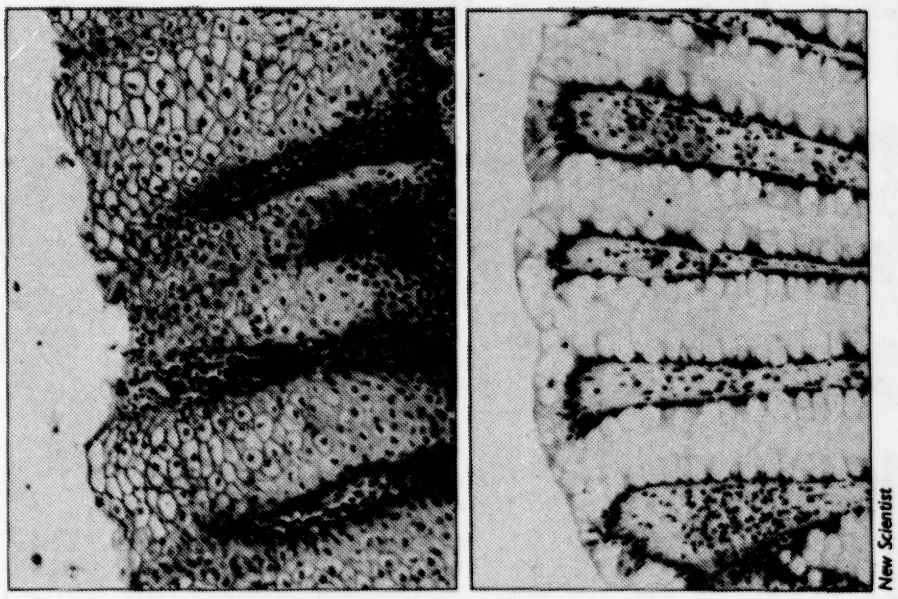
The issue is more complex than it first seems. To begin with, the scope of IV drug use is not very well understood. The stereotype of the heroin addict nodding out in a hallway tends to mask how very widespread and close to home IV drug use actually is. The addict population for heroin has been estimated at about 400,000, with perhaps another million occasional users. No estimate for cocaine is available, but a three-year study of 11,623

clients of drug abuse clinics yielded the startling fact that more than half the cocaine users reported their principal means of administration was intravenous injection. A third of amphetamine users reported the same. And there are subgroups we seldom hear of. Body builders who inject steroids frequently share their needles, and several AIDS cases have already resulted from this practice. Haitians, who frequently take herbal medicines by injection, also share their needles. Altogether, Ginzburg estimates that several million people are at risk for AIDS through IV drug injection. And the risk is high — far higher than for homosexual exposure. In New York City, according to the only study of AIDS rates among the selected populations, the incidence rate of AIDS among male IV drug users is three times that for gays.

Furthermore, it is this very group that is most responsible for introducing AIDS into the general population. To date, almost all cases of heterosexual transmission of AIDS have come from sexual contacts with IV drug users, the victims being the consorts of drug users or straight men patronizing IV drug-using prostitutes. (A third of all women in one study of IV drug abusers said they turned tricks to obtain drug money.)

IV drug users are a difficult group to deal with — hard to educate, hard to get into treatment programs, hard to reach with AIDS warnings. (How do you tell a 16-year-old speed freak: Don't share needles today so you'll be alive tomorrow?) As gays modify their sexual behavior in response to AIDS, drug abusers may become the major risk group.

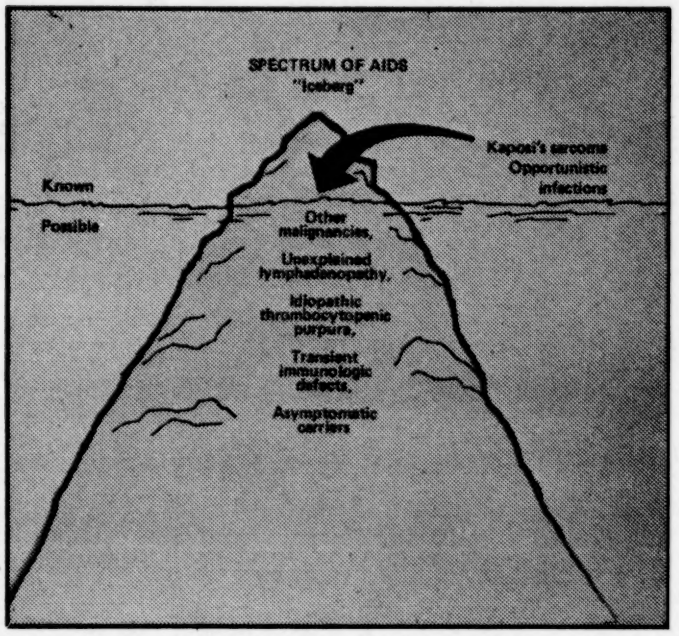
While AIDS expresses itself in the United States, three times out of four, by infecting gay and bisexual men, no such pattern exists in Haiti or in Central Africa where the disease almost certainly got its start. In Africa, AIDS is a heterosexual affliction: it strikes men and women almost equally. It also strikes children, it runs through villages, it dwells in families. In Zaire, as much as 12 percent of the population may have been exposed to AIDS. In Uganda, according to a recent study, the AIDS virus was widespread even in remote rural areas as far back as 1973. It is significant that none of the Ugandan children whose blood samples contained antibodies to the AIDS virus showed any signs of the disease itself. This suggests either that 1) AIDS has been endemic in some parts of Africa for a long time — long enough for afflicted populations to develop a stable relationship to the disease where only a few die of it, while most "get" AIDS only as a mild childhood sickness, or that 2) the virus itself has mutated quite recently into a new and deadly form.



The lining of the vagina (left) is a tough, thick protective layer of mucosa cells. It is designed to bear friction, unlike the thin layer of goblet cells lining the rectum (right), made thin to secrete digestive enzymes easily.

It is important to learn which of these possibilities is true. Indeed, now that Central Africa is generally agreed to be the motherland of AIDS, all research coming from that region becomes fascinating. For example, the discovery reported last April that a virus very similar or identical to AIDS is widespread among African green monkeys suggests that AIDS might have an animal origin. A great many human diseases do: measles is probably related to rinderpest and/or canine distemper; smallpox is related to cowpox; influenza we share with pigs. In fact, we share 42 diseases with pigs — and 65 with dogs, 50 with cattle, 46 with sheep and goats, 35 with horses, etc. Not many diseases strike man and beast with equal force, however. Quite often the microbe that lays one low lives in the other quite harmlessly. Such is the case with green monkeys — the AIDS-related virus they carry doesn't seem to affect them at all.

Among Haitians AIDS also expresses itself heterosexually, and it appears to be of recent origin. For example, the infection rate among Haitians in Miami, where most are recent immigrants, is four times that of New York City, a long-established Haitian colony. Why Haitians are at risk at all for AIDS is still a great mystery. If it has something to do with tropical parasites or dwelling in tropical conditions as is suspected in Africa, then one would expect to find AIDS throughout the island of Hispanola, which Haiti shares with the Dominican Republic. But that is not the case; a recent study shows there is more AIDS in Haiti, even in remote rural areas, than in the most crowded cities and resorts of the Dominican Republic. ►



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Haitians have recently been taken off the CDC list of high-risk groups for AIDS, presumably because they apparently do not contract the disease in the United States. The risk is still high for them in their own country, however, and no one knows why.

In fact, the issue of who gets AIDS and why is clouded with unknowns, puzzling inconsistencies and sheer speculation. Why has AIDS expressed itself heterosexually in Africa and Haiti, and homosexually in Europe and America? We still do not know. Why do some gay men with hundreds of sexual partners remain free of AIDS while others pick it up from a couple encounters? We can only speculate. Why does AIDS strike mostly gay men in their thirties when the twenties are the years of greatest exposure to sexual disease? There is no clear answer, but for all these cases there is mounting evidence that the virus alone is not sufficient to cause AIDS, that it preys upon immune systems already seriously compromised by a combination of debilitating co-factors. Exactly what these co-factors are and how they work is not yet clear, but only a small percentage of those exposed to the AIDS virus ever come down with AIDS. Most show no signs of the disease at all although there is strong evidence many of them remain asymptomatic carriers (as with hepatitis B) able to infect others. One study suggests about 7 percent will develop full-blown AIDS each year with perhaps five to ten times as many showing AIDS-related symptoms. The accepted belief that AIDS is 100 percent fatal is true only if AIDS is defined strictly. In fact, like most afflictions it singles out the vulnerable, leaving the others relatively unaffected.

The immune system, the heart of a successful resistance, could be looked at as a kind of extension of the ego expressed at the cellular level — a fundamental biological definer and defender of the self. As such, it exercises a kind of molecular self-consciousness that enables it to recognize what is self and what non-self and then, with unflagging chauvinism, to destroy anything foreign. A compromised immune system would be something like a shaky ego, no longer able to sort out self from non-self, prone to overreact against the imaginary aggressor, too weak to defend against a real one.

How might co-factors work? Life in the gay fast lane can be very hard on the immune system, which may be called on to fend off the multiple attacks of intestinal parasites, other infectious diseases, drugs (both prescriptive and recreational), emotional stress, and possibly even sperm. A high percentage of gay men harbor sexually transmitted intestinal parasites (80 to 90 percent in recent studies), and parasites plus the powerful antibiotic drugs taken to combat them can have a seriously debilitating effect on the immune system. Interestingly, parasites are also suspected of being a primary co-factor for AIDS in Africa.

Parasitic infection may set the immune system up for AIDS which is then expressed according to the predominant form of sexual transmission of the AIDS virus in the infected population — homosexually in America and western Europe, heterosexually in Africa.

Parasites might also explain a curious exception to the general pattern of AIDS infection in this country. The little town of Belle Glade, Florida, has the highest AIDS rate in the United States, but nearly half the cases there are not homosexuals or IV drug users. However, Belle Glade, an impoverished agricultural community with a large transient population of Caribbean migrant workers, *looks* more like Africa than it does the U.S. There is malnutrition, poor sanitation, fecal contamination, rodents, and a host of parasitic infections and endemic diseases. A third of the schoolchildren have Giardia, a parasite that is also common among gays. Belle Glade's third world environment may determine the African shape of its AIDS epidemic.

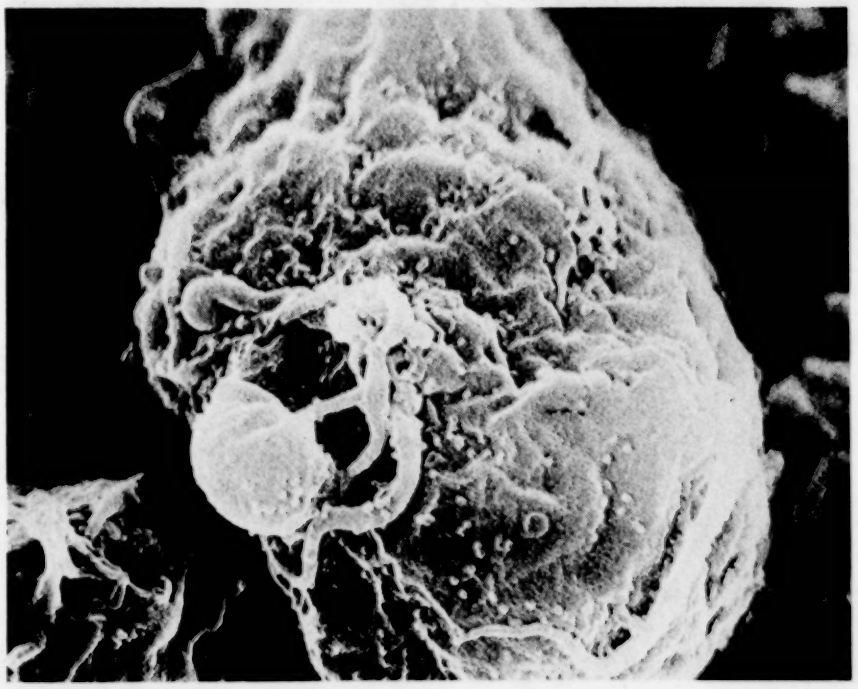
Certain viral infections that are common among sexually active gay men and IV drug users are also almost invariably present in AIDS patients. Cytomegalovirus, or CMV, causes mononucleosis and is known to damage the immune system. Epstein-Barr virus is associated with lymphatic cancers and herpes; hepatitis B, a debilitating virus that attacks the liver, is also a suspected co-factor.

Many recreational drugs are suspected of

damaging the immune system. "Poppers," amyl or butyl nitrite inhalants frequently used by gay men to increase the "rush" of orgasm, have been indicted with respect to Kaposi's sarcoma, but other drugs have similar effects, and are widely used by gays. The most recent investigation of AIDS and drugs (a 1982 study by the CDC of AIDS and KS) showed a very high level of drug use by virtually all of the 87 gay men with AIDS who were studied. The recorded levels were: poppers 97 percent, marijuana 93 percent, amphetamines 68 percent, cocaine 66 percent, LSD 65 percent, Quaaludes 59 percent, ethyl chloride 48 percent, barbiturates 32 percent, heroin 12 percent, and any drug taken intravenously 17 percent. Moreover, multiple drug use was the rule; 58 percent of the subjects used five or more different "street" drugs, and most used them heavily. Is drug use a co-factor for AIDS? It is certainly a reasonable suspicion.

One study suggests that sperm, which enter the blood stream during anal intercourse, may also depress the immune system, which may have to mount an attack against them as against any "foreign" invader. The greater the variety of sexual contact and thus of invading sperm, the more immune energy would be used up in defense.

The likely viral agent for AIDS is a type C human retrovirus known (in one of its variants) as HTLV-3 (Human T-cell Lymphotropic Virus) which was isolated almost simultaneously last year by Dr. Robert Gallo of the National Cancer Institute and by French researchers at the Institut Pasteur in Paris, who called their discovery LAV (Lymphodenopathy-Associated Virus). A second AIDS virus, ARV (AIDS-Related Virus), was subsequently isolated in San Francisco. Both appear to share an identical core protein and similar disease mechanisms, but differ significantly in the protein makeup



Freeze-dried and plated with gold and platinum, the crusty potato-shaped item in this electron micrograph is a dehydrated human lymphocyte. It normally swirls through the bloodstream by the millions. This one is infected with tiny circular grains of AIDS retroviruses. Enlarged about 10,000 times, the spherical retroviruses are speckled around the ruptured plasma membrane of the lymphocyte, which bulges octopus-like just left of center.

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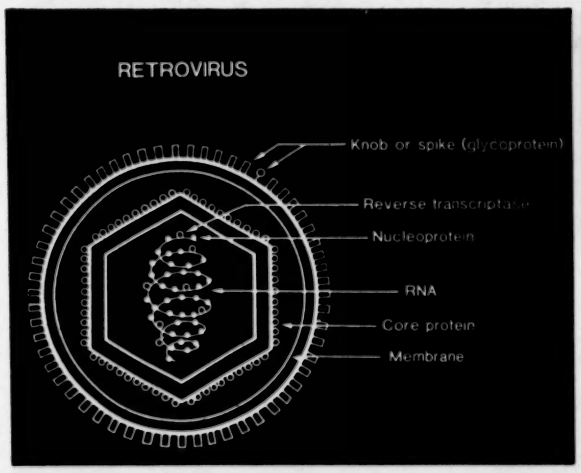
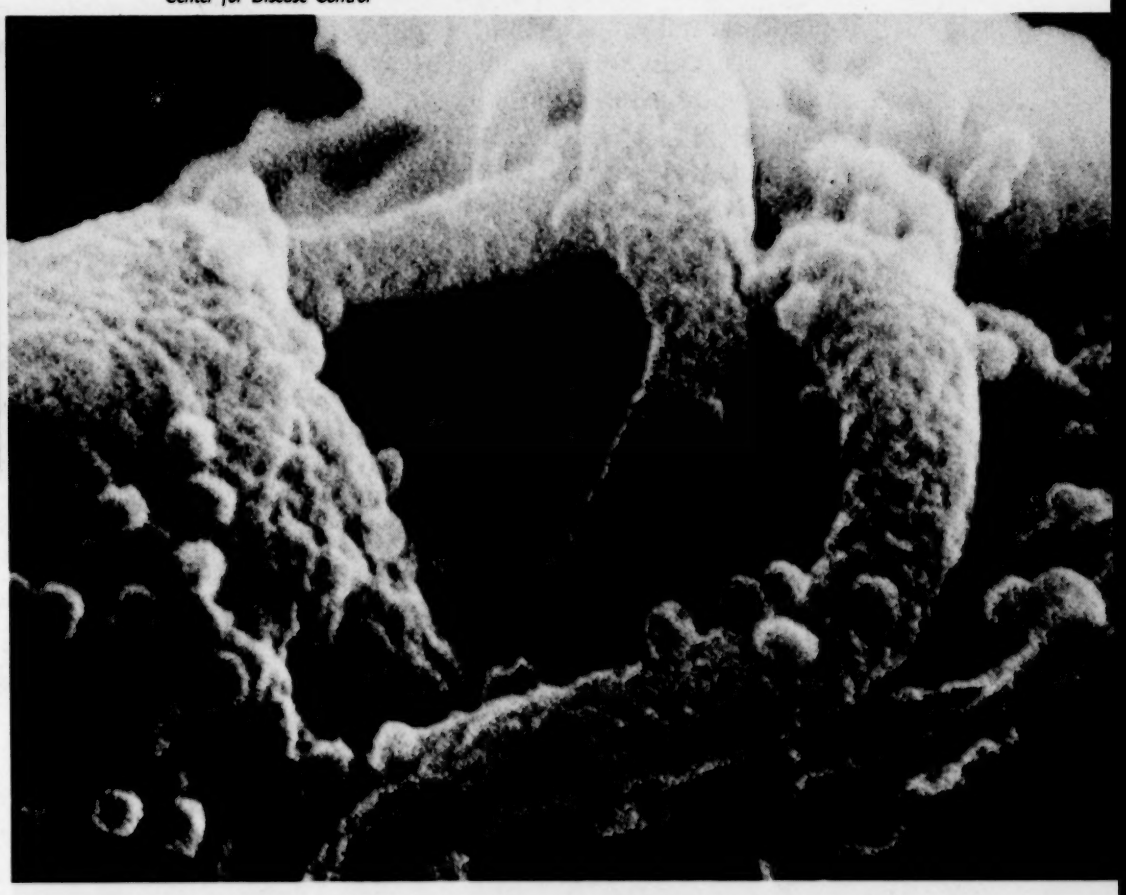
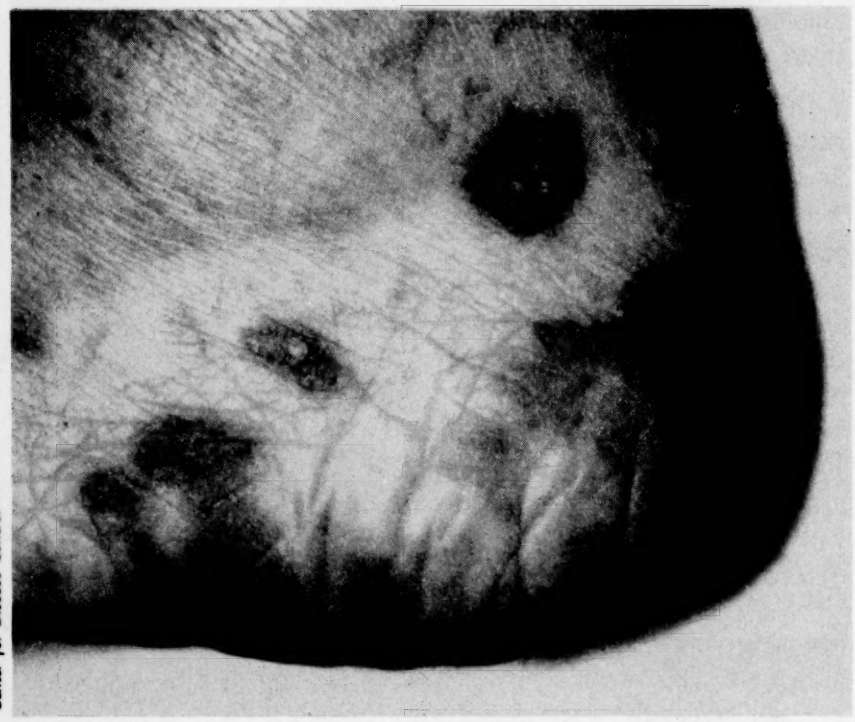


The retroviruses are sheathed in a globe-like membrane that harbors the disruptive RNA proteins.



Further magnified to 50,000 times actual size, this electron micrograph of the same AIDS-infected lymphocyte reveals a horde of pea-shaped AIDS viruses budding from the lymphocyte's outer membrane.



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Skin lesions (violaceous plaques) of Kaposi's sarcoma on the outer side of the heel.

of their outer sheaths. These closely related but distinctly different variants suggest that the AIDS virus, like flu, may be capable of rather swift mutation and that any successful vaccine might be quickly outdated — its molecular structure no longer able to "fit" with the rapidly evolving structure of the virus.

Retroviruses are curious, nonconformist creatures. Conventional DNA viruses consist of an outer protein shell and an inner core of double-stranded DNA — the familiar double helix that carries the genetic coding of the virus and is essential for reproduction. But a retrovirus enters the cellular world packing only a single strand of RNA — sufficient to establish its genetic identity, but insufficient for reproduction. To replicate its kind, the retrovirus must first invade a host cell and commandeer some of that cell's DNA material, which it remanufactures into a double-helix copy of its own single RNA strand. (This somewhat casual approach to maintaining the family lineage may explain why the AIDS virus apparently mutates so readily.) The agent of this DNA transformation is an enzyme known as reverse transcriptase, a chemical marker that scientists have found convenient to identify this class of viruses, and which may in the end prove to be the virus's undoing. A drug that attacked reverse transcriptase directly might overcome the problem a vaccine would have of knowing how to recognize the many variations of the AIDS virus.

In humans, the unfortunate host of the AIDS retrovirus is a specialized white blood cell known as a T helper cell, a denizen of the lymphocyte system that plays a vital role in arousing the body's immune defenses. When the battle against invading microorganisms is won, a second class of T-cells, T suppressor cells, send out signals to call off the troops. Healthy blood has a T-cell ratio of two helpers to one suppressor. In AIDS patients that ratio is reversed: the AIDS virus makes its home and its nursery in helper T-cells, and kills them in the process. (It is also somewhat lethal to B-cells, and is thought to invade the central nervous system directly, causing dementia and other symptoms similar to Alzheimer's disease.) In later stages of AIDS, no T helper cells are left at all — the body is completely at the mercy of the most commonplace of infectious invaders.

One such interloper is pneumocystis carinii pneumonia (PCP), a particularly virulent lung infection frequently seen in immuno-suppressed people. Caused by a common airborne protozoa, it is easily overcome by a healthy immune system (70 percent of all healthy children show evidence of past infection by the age of four). If caught early, PCP in AIDS patients can be cured, but the treatment (by Septra [sulfamethoxazole], pentamidine, and other drugs) is painful and involves dangerous side effects, and the patient is susceptible thereafter to possibly fatal reinfection.

Kaposi's sarcoma (KS) is a rare form of skin cancer previously found only in elderly patients, Central Africans, or transplant recipients whose immune systems have been artificially depressed by immuno-supressive drugs. It usually appears as pink to purple, painless spots on the skin, inside the mouth, and on internal organs. In the elderly, KS is a slow-growing, relatively benign cancer; in AIDS patients its progress is rapid and frequently fatal — usually from major organ involvement. Curiously, KS seems to strike mostly gay men, other AIDS patients rarely get it. While the reasons are unknown, one recent study suggests that KS may be related to the use of poppers. AIDS patients who have KS with no other complications seem to have a somewhat better chance of survival. A New York City study found the median survival time for these patients was nearly two and a half years; for other AIDS patients, it was a year or less.

Eighty-three percent of AIDS patients contract either PCP or KS (6 percent have both). Other opportunistic conditions that are part of the AIDS spectrum include severe yeast infection, lymphadenopathy, cytomegalovirus, herpes virus, and toxoplasmosis.

Until recently, drug therapy for AIDS was

confined to medications directed at specific opportunistic infections, such as Septra or pentamidine for PCP, or drugs thought to build up the immune system. One such drug, interferon, has shown a limited ability to rehabilitate damaged immune systems, but interferon therapy is extremely painful, and the effects on test subjects are frequently devastating. Research in this area continues. Now scientists are beginning to discover drugs that appear to attack the AIDS virus directly. While it is still too early to judge whether any of them will prove practical, preliminary results with both laboratory cultures and live subjects are promising.

Ribavirin, a drug that stops the growth of many viruses, has been found effective with influenza, hepatitis A, herpes zoster, and measles. Although it does not cure the actual disease, it does reduce the symptoms and speed recovery. In tests with measles, patients on ribavirin recovered twice as fast as control subjects. And in laboratory tests, ribavirin blocked the growth of the AIDS virus in test tubes. Now it is being used experimentally with test subjects in San Francisco.

Phosphonoformate, a drug that has been tried with herpes, interferes with the life cycle of the AIDS virus under laboratory conditions (in vitro), and Swedish researchers are beginning clinical trials. HPA-23, another antiviral drug, has been undergoing clinical trials in France for more than a year. One of four test subjects showed no sign of the AIDS virus a year after taking the drug. The skin cancer of another has been stable for five months after treatment. Another patient, a hemophiliac, has been free of infection for 16 months. Ansamycin is an antibiotic that has shown some anti-AIDS activity in vitro. Suramin, an extremely powerful drug that has been used against parasitic diseases in Africa for years, also blocks growth of the AIDS virus in vitro, and is undergoing clinical trials. All four drugs act by blocking the activity of reverse transcriptase and thus interfere with the virus's ability to reproduce. All four also have dangerous side effects which may limit their effectiveness with AIDS patients. Effective antiviral drugs, while no panacea, will be very important in fighting AIDS, but they will have to be administered early in the disease.

A vaccine for AIDS, as mentioned previously, is probably still a long way from development, but even a successful vaccine might not be effective against AIDS. Vaccines work by stimulating the body's immune system to produce antibodies against a specific disease, but antibodies do not always work against all infections, and it has not been shown that AIDS

ACCESS TO FURTHER INFORMATION ABOUT AIDS

Books:

The Truth About AIDS: Evolution of an Epidemic by Ann Guidici Fettner and William A. Check, Ph.D. New York: Holt, Rhinehart, and Winston, 1984. $15.95. *Excellent book on the early medical detective work. Unfortunately dated, the book ends just before isolation of the AIDS virus.*

AIDS Fact Book by Ken Mayer, M.D., and Hank Pizer. New York: Bantam Books, 1983. $3.95. *Good general introduction to the subject. Also dated. Ends just before isolation of the AIDS virus.*

Getting Well Again: A Step by Step Self-help Guide to Overcoming Cancer for Patients and Their Families by O.C. Simonton, M.D., S. Simonton-Matthews, and J.L. Creighton. New York: Bantam Books, 1980. $3.95. *The Simonton cancer treatment involving visualization, vitamins, and other therapies.*

Periodicals and Pamphlets:

"The State of the Science" column by Michael Helquist in **Coming Up** magazine; $24/year (12 issues) from Coming Up, 867 Valencia St., San Francisco, CA 94110. *Consistently the best reporting on medical and scientific aspects of AIDS from a gay perspective that I've read. My material on intravenous drug use is largely drawn from Helquist.*

National Coalition of Gay Sexually Transmitted Disease Services Newsletter, P.O. Box 239, Milwaukee, WI 53201; bimonthly.

Facts About Aids; pamphlet available free from the Center for Disease Control, 1600 Clifton Road, Bldg. 1, B-63, Atlanta, GA 30333.

"Incredible Triumph over AIDS Brings New Hope" by William Calderon in **New Realities**, March/April, 1985.

Hotlines:

National Gay Task Force Hotline: Hours: M-F 3 P.M. to 9 P.M. EST. 800/221-7044.

U.S. Department of Health and Human Services Hotline. Hours: M-F, 8:30 A.M. to 5:30 P.M. EST. 800/342-2437.

There are 750 local organizations devoted to AIDS in the U.S. The name of an organization in your area should be available through one of these hotlines. Many of these groups publish excellent fact sheets listing local agencies and services available to people with AIDS. As a last resort, call the San Francisco AIDS Foundation Hotline (next column). They maintain a national listing of organizations. San Francisco AIDS Foundation Hotline. Hours: M-F, 9 A.M. to 5 P.M. PST. Southern California: 800/922-AIDS; Northern California: 800/367-AIDS.

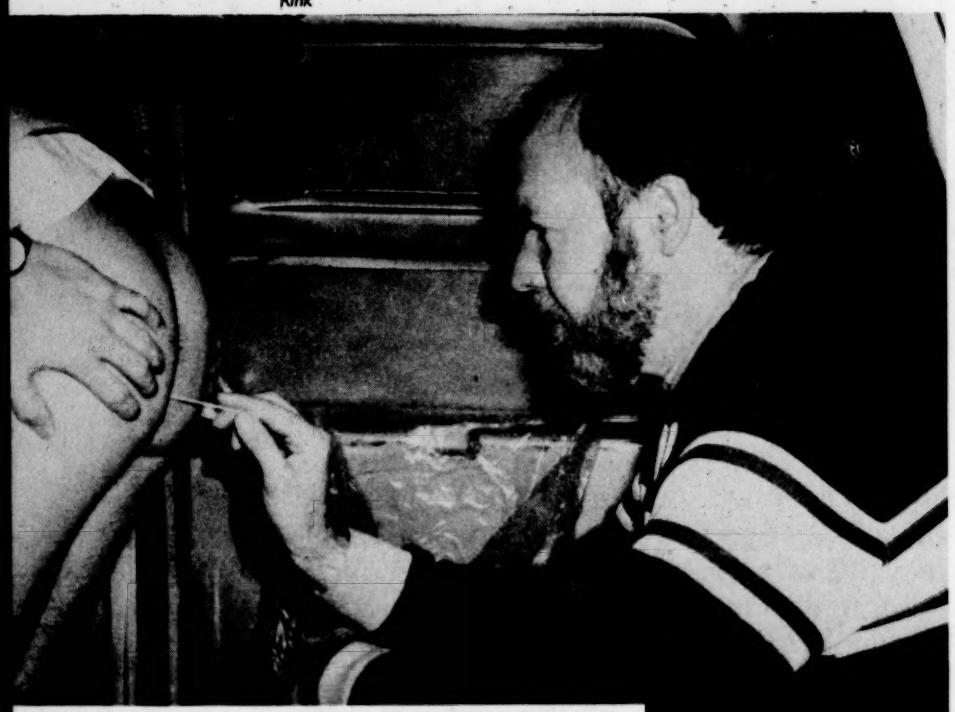
Videotapes:

AIDS: Care Beyond the Hospital. Videotape comes in two versions: 1) ***Case Management*** (for social workers), 2) ***Attendant Care*** (for attendants and other health care workers). $75 each. Available from San Francisco AIDS Foundation, 333 Valencia St., San Francisco, CA 94103.

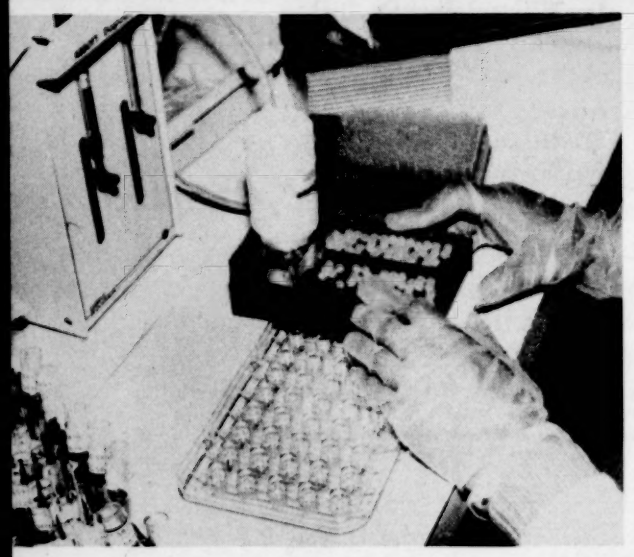
Computer Data Base: Computerized AIDS Information Network (CAIN). *Designed for medical professionals and community organizations. Includes a bulletin board; scientific and medical research articles and abstracts; information for health care professionals including infection control guidelines, health tips, audio-visual resources, funding sources, and an indexed listing of AIDS organizations, hotlines, medical, psychological, dental, financial, and legal services.*

Available through DELPHI, General Videotex Corp., 3 Blackstone St., Cambridge, MA 02139. Enrollment fee: $49.95 (California residents) or $61.95 (non-California). 617/491-3393. —MH

Rink



On Castro Street, San Francisco, getting a free rectal check from the VD Van. In seven years this mobile clinic tested 10,000 people at bars, bathhouses, and street fairs, but was disbanded several months ago as the number of positive cases plunged dramatically, from hundreds a month to one or two. The remarkable decrease in VD is attributed to the AIDS scare.



The Irwin Memorial Blood Bank, San Francisco, screens all incoming blood for HTLV III (one type of AIDS) virus. Glass beads coated with an agent that reacts with the HTLV III antibody are dropped into blood serum samples and inspected mechanically.

antibodies would kill the AIDS virus. Prevention may be the only effective defense against AIDS for a long time to come.

Not everyone faced with a diagnosis of AIDS chooses drug treatment or other therapies of allopathic (traditional Western) medicine. A small but significant number of AIDS patients elect to follow one or a number of alternative courses known collectively as wholistic medicine, sometimes in combination with chemotherapy or other conventional treatments. While it would be difficult to gather all the branches of wholistic medicine under the umbrella of a single philosophy, they tend in general to regard the body and mind as a single interrelated system and to prescribe for the whole person — physical, emotional, spiritual, and mental — and to regard health as the harmonious balance of these forces, illness as imbalance. Many wholistic disciplines draw on ancient medical wisdom sometimes in combination with contemporary science. Treatment usually consists of a variety of techniques for bringing bodily forces back into harmony so that the body can use its natural forces to heal itself, and an essential part of this process is enlisting the wholehearted cooperation and participation of the patient himself. Thus, wholistic treatment of AIDS would focus on the underlying cause of illness, the depletion of the immune system, and would seek to restore immune resistance through alternative therapies and the removal of harmful toxins.

Many AIDS patients who follow the wholistic path experience the same sad outcome as those undergoing traditional treatment — a gradual weakening of bodily defenses leading ultimately to death by opportunistic infection. But some feel that wholistic therapies allow them to maintain their health and a high quality of life for a longer period than would be the case for patients who submit already ravaged immune systems to the additional stress of chemotherapy. And not everyone choosing alternative therapies has died. While it is difficult to cite "cures" in the brief life of this epidemic, there are some people alive and doing well on wholistic therapies two or more years after diagnosis.

William Calderon was diagnosed with KS in December 1982. He was told he had about six months to live and was advised to put his affairs in order. As with most AIDS patients, the diagnosis came as a terrible blow. Calderon, convinced he would die, became deeply depressed, and his KS lesions began to multiply rapidly. In January, a gastrointestinal examination revealed extensive purple nodules and tumors in his lower esophagus, throughout his stomach, and in his rectum. All biopsies were positive for KS.

Shortly after his diagnosis, Calderon revealed his condition to an old friend and client in his hair salon. Her response staggered him, and was to play a critical role in his recovery. She told Calderon with deep conviction that he didn't have to die, that he could heal himself if he took responsibilty for his illness and mobilized all the resources of his mind and body to regain health. She described the work of Dr. Carl Simonton with cancer patients. Simonton believes that cancer cells arise naturally among the millions of new cells that are continually being produced by the body, and that just as naturally these cells are recognized by the immune system and destroyed. If a person becomes stressful and depressed, however, or loses his will to live, the immune system in

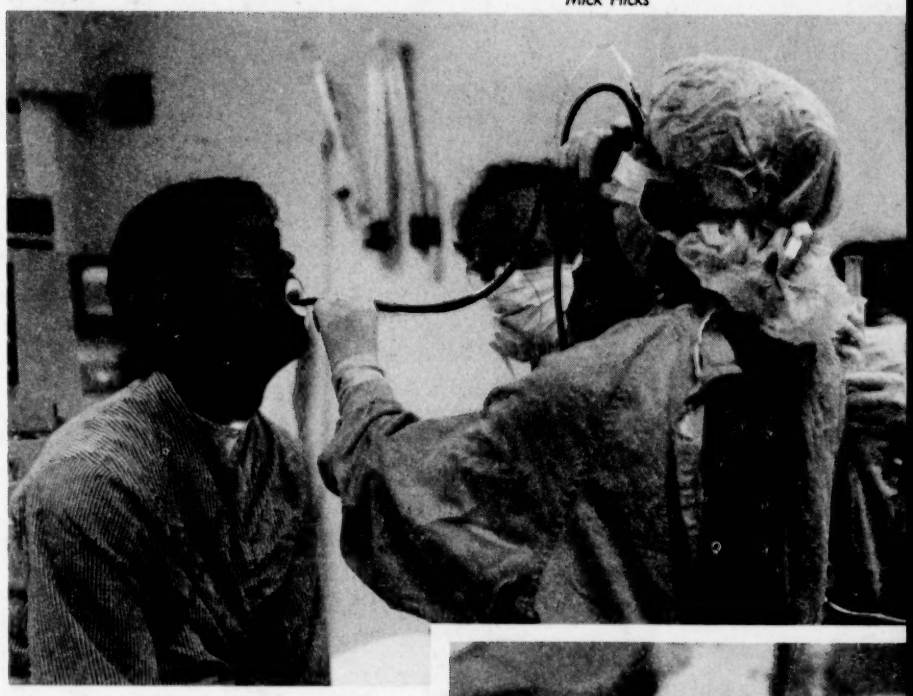
some way also loses will to live, and cancer cells are allowed to grow.

There is some research support for this idea. A 1977 study of bereaved spouses showed a higher risk of illness and death for them than for a comparable group that had not lost a loved one; and another study found reduced levels of lymphocytes (disease-fighting white blood cells) eight weeks after bereavement. Furthermore, two follow-up studies of breast cancer patients reported that patients with a "fighting spirit" and denial of death survived longer than those who were hopeless and stoical. Another investigation of the mental attitude of patients with malignant skin cancer reported that those who needed a considerable amount of personal adjustment to cope with the disease were less likely to relapse than those who adjusted more easily. Other findings suggest that stress is related to immunosuppression and that it may be countered by other factors such as positive social support. In other words, a positive, even a combative mental attitude toward disease seems to affect the immune system and increase chances of survival.

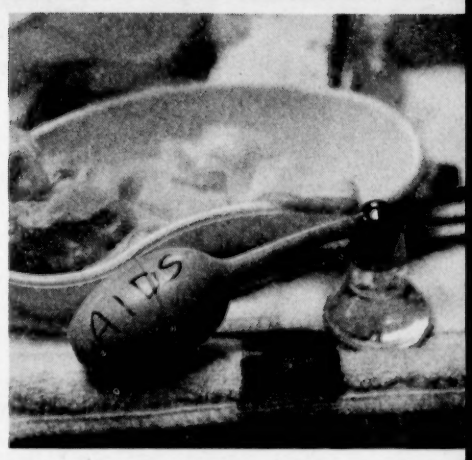
This is exactly what happened to Calderon. Supported by his female client and by his male companion of 14 years, he gradually developed a deep conviction that he did not need to die, that he could in fact heal himself. He began practicing Simonton's imagery therapy three times a day, visualizing from a deep state of relaxation that his white blood cells were destroying the cancer cells. He also visualized himself as a healthy and completely well person. He changed his diet to emphasize foods thought to combat cancer, and began taking massive doses of vitamin C and other vitamins. His depression vanished, and he says the KS lesions stopped spreading at this time.

But then Calderon, afraid he might miss out on a wonder drug cure, entered an experimental program in interferon therapy at San Francisco General Hospital. The treatments, which began in late January 1983, did not make him feel better. His hair and eyebrows fell out, his skin turned yellow-grey, he developed the shakes, the sweats, and fever. His body became swollen and he was in agonizing pain. He felt he was wasting away. Other participants in the program began dying. Nevertheless, Calderon continued with interferon into June, although by then he had lost 20 pounds and thought he was dying. Throughout this period, his emotional support group insisted he continue with the vitamins and the visualization. When he withdrew from the interferon program, his KS was in complete remission, as it remains today. Researchers at

Mick Hicks



A bronchoscope is inserted in the bronchus of an AIDS patient to visually inspect it for abnormalities. The lungs are very susceptible to AIDS-induced infections.

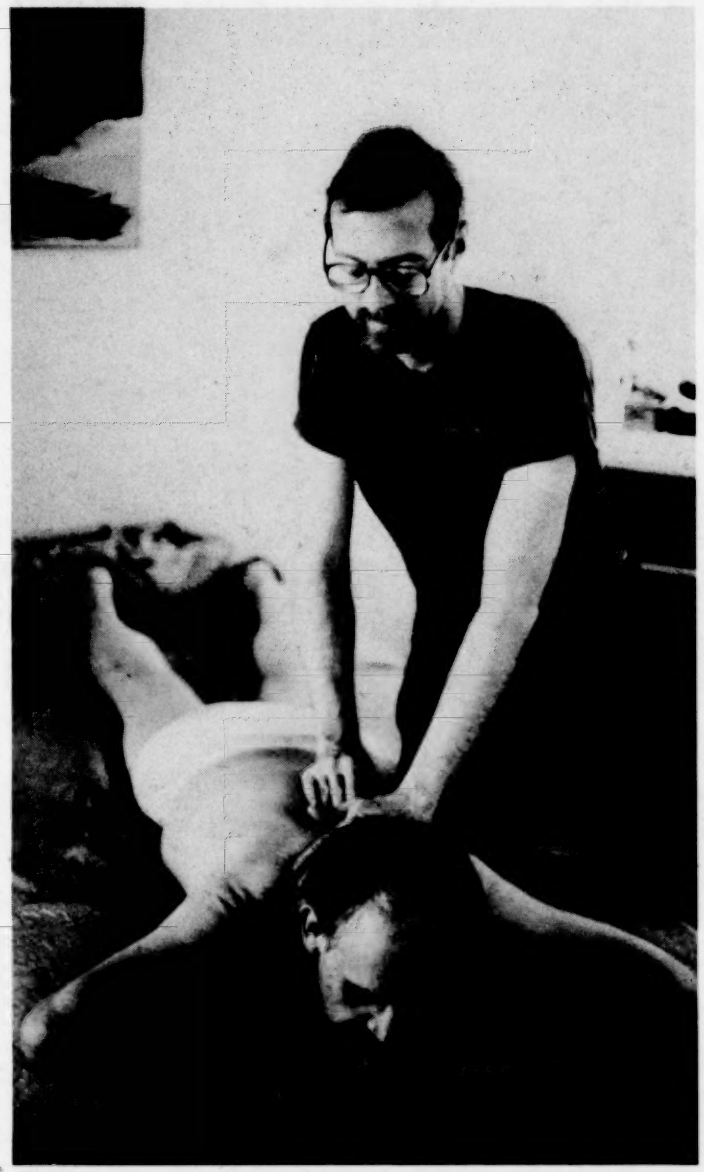


At the University of California Medical Center, San Francisco, equipment that is used on AIDS patients is specially marked and not used on other patients.

SF General ascribe his recovery to interferon; Calderon feels the drug was killing him and that he got better by stopping interferon and continuing the Simonton therapy. He points out that most others in the interferon program died.

Today Calderon appears healthy and completely free of AIDS. He is active in his business and carries on a full round of outside activities, including work with other AIDS patients. He has had no major illnesses since his diagnosis of KS except for a brief bout of pneumonia in January 1985, which did not turn out to be pneumocystis. A blood work-up done at that time showed a normal level of T helper cells but a high level of T suppressor cells. While the reversed T cell ratio is characteristic of AIDS (and other conditions where the immune system is responding to a virus), the relatively high level of T helper cells is not found in AIDS patients. Is Calderon cured? Most of the clinical indications suggest he is, but since no criteria have been established for an AIDS cure, we will have to let time decide.

Bobby Reynolds is one of the oldest surviving AIDS patient in San Francisco. He was diagnosed with KS in April 1982, and underwent chemotherapy which he continues today at a



Jim Bell

Strange de Jim, massage volunteer and noted author, giving full-body therapeutic massage to an AIDS patient. The Hospice of San Francisco offers trained, professional masseurs and masseuses, skilled nursing care, and bed attendants to AIDS patients requesting such.

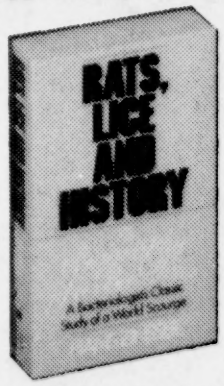
very low maintenance level. His KS is in complete remission. Reynolds also practices the Simonton visualizations ("I visualize thousands of little Pac-Men gobbling up my cancer cells"), takes heavy doses of vitamin C, has changed his diet, and takes very good care of his health. He leads an active life, working with Shanti and other AIDS organizations, but his energy is diminished, and he does not believe his immune system has completely recovered.

Other wholistic therapies include stress reduction through techniques such as biofeedback, aerobic exercise, meditation, journal writing, and autogenic training (a form of self-hypnosis); Detoxification utilizing saunas, colonics, high-fiber diets, and B-complex vitamins; homeopathic medications, including flower essences to improve the metabolic function; herbal medicines like ginseng and echinecea, which is thought to strengthen the immune system; nutritional regimens such as macrobiotics; acupuncture and oriental medicine; chiropractic adjustments. The list is by no means exhaustive; wholistic treatment of AIDS is a complete subject in itself. Nor should this

Rats, Lice and History

KEVIN KELLY: Still in print after 50 years, this classic continues to upset our conception of disease as an inert agent that disables a living system. The compelling, riveting evidence is that humans alter human diseases, as they us. We have only to look at cases of sordid pestilences like syphilis and plagues in medieval times, and their mysterious recessions, for a demonstration of our part in coevolution. Seeing history through the eyes of a bacillus, as viewed in this essay, makes the large seem smaller, and the small greater. [Suggested by Hank Roberts]

Rats, Lice and History
Hans Zinsser
1934, 1963; 313 pp.
$8.45 postpaid from:
Little, Brown
and Company
200 West Street
Waltham, MA 02254
800/343-9204
or Whole Earth Access



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While there remain legitimate differences of opinion concerning the problem of origin, there is no doubt whatever that syphilis flared up in a sudden, intense, and widespread manner shortly after the time when Charles VIII of France led his army through the South of Italy against Naples. The city was taken by the French in February 1495, and the disease promptly appeared among the troops and the burghers. As the army dispersed, deserters, camp followers, and demobilized soldiers spread the infection far and wide, and, because of the malignancy and disgusting character of the malady, it was the custom of the day to blame it on the enemy. Thus it was at first known variously as the "French disease" or the "Neapolitan disease." Benvenuto said he had "the French affliction."

The infection as it occurred in Naples was to all intents and purposes a *new disease* in representing a completely altered relationship between parasite and host, with consequent profound changes of symptoms. Something must have happened at that time, apart from war and promiscuity, — both of which had been present to an equal degree many times before, — which converted a relatively benign infection into a highly virulent one. . . .

When syphilis first broke out in Naples in the army of Charles VIII, it possessed a violence that is unobserved in syphilis to-day. According to Scharfenberg, it was a feverless disease characterized by pustular and vesicular eruptions with extensive ulceration. Though the first ulceration usually appeared on the genitals, this was not always the case. Primary contact infections occurred on many other parts of the skin, and the disease was often transferred from mothers to children in ordinary association. The ulcerations which often resulted from the eruptions covered the body from the head to the knees. Crusts formed, and the sick presented so dreadful an appearance that their companions abandoned them and even the lepers avoided them. . . .

Within a little more than fifty years, the disease had already changed.

brief account lead anyone to believe he might cure himself of AIDS simply by following wholistic regimens. The subject is complex and requires complex decisions. But it is worth considering.

It is interesting that the AIDS epidemic, for all the dire predictions of rapid spread to the heterosexual population, has failed fundamentally to catch the attention of mainstream America. Despite sustained media attention and clear evidence of the heterosexual character of AIDS in other corners of the world, and even allowing for sporadic outbursts of panic, most Americans don't really expect aids to reach them where they live. If they think about it at all, it is as "The Gay Plague," a remoteness, a disease that happens to other people.

This attitude really misses the point, which is that AIDS is not a homosexual plague, it is a *sexual* plague, a sexually transmitted disease that chanced to find in gay sex an easy avenue of propagation. But gay sex is not the only such avenue of propagation.

After all, the sexual candy store — that emporium of contemporary permissiveness — has been doing business for some years now, at least since the early sixties. And not just gays have been pushing up to the counter to sample the free merchandise and try out all the enticing specials. A whole heterosexual generation has tasted those goodies, too. Me included. What can we look forward to besides a case of indigestion?

The revolution in sexual permissiveness that began in the sixties and brought sweeping changes in the way men and women relate to each other has now stirred up a virtual epidemic of sexually transmitted diseases (STD), a flood so overwhelming that numerically AIDS is but a small part of it. The figures are awesome. Twenty-seven thousand cases of STD are contracted *every day*. One in four Americans will be affected by STD at some time in his or her life. Genital herpes strikes half a million persons a year, gonorrhea two million, and chlamydia trachomatis, a disease so new most people have never heard of it, strikes three to four million! Chlamydia causes sterility in 11,000 women annually, and the symptoms are often so mild women don't know they have it. Untreated, it moves into the uterus and Fallopian tubes causing pelvic inflammatory disease (PID), chronic pain, and fever. PID, which can also be a consequence of gonorrhea, afflicts more than a million women each year, accounts for 20 percent of all women who seek treatment for infertility, and increases by eightfold the risk of ectopic

Plagues and Peoples

MATT HERRON: How did Hernando Cortez, a scruffy Spanish brigand with a paltry 600 men, some undernourished nags, and a gaggle of primitive blunderbusses, subdue the powerful and sophisticated Aztec civilization, murder its king, and impose his religion on millions of subject Indians?

Historian William McNeill presents evidence that an invisible but deadly secret agent marched with Cortez: none other than that well-known microbe, smallpox. The Aztecs, wiped out (by the ten-thousands) by a mysterious pestilence that killed only them while sparing the relatively immunized Spaniards, assumed that the Spanish god knew something theirs didn't. Demoralized, they surrendered and converted.

For those tired of history as the chronicle of kings and armies, McNeill's book will be a fascinating revisitation of familiar events. Beginning in prehistory in the African rain forest, he traces the influence of epidemic diseases until the 1940s when public health measures and antibiotics laid mankind's age-old companions and killers to rest — or so we thought until AIDS came down upon us. Along the way the reader picks up a working understanding of epidemiology. McNeill's view is global: he is equally as concerned with the fourth-century arrival of smallpox in China as with the spread of Black Death in fourteenth-century Europe. Now, if we factor in ecological disasters such as deforestation and erosion, something like a believable picture of human history begins to emerge.

Plagues and Peoples
William H. McNeill
1976; 352 pp.
$6.50
postpaid from:
Doubleday and Company
Direct Mail Order
501 Franklin Avenue
Garden City, NY 11530
or Whole Earth Access

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Investigators soon discovered that the human plague had been contracted from marmots. . . . Nomad tribesmen of the steppe region, where these animals lived, had mythic explanations to justify epidemiologically sound rules for dealing with the risk of bubonic infection from marmots. Trapping was taboo; a marmot could only be shot. An animal that moved sluggishly was untouchable, and if a marmot colony showed signs of sickness, custom required the human community to strike its tents and move away to avoid bad luck.

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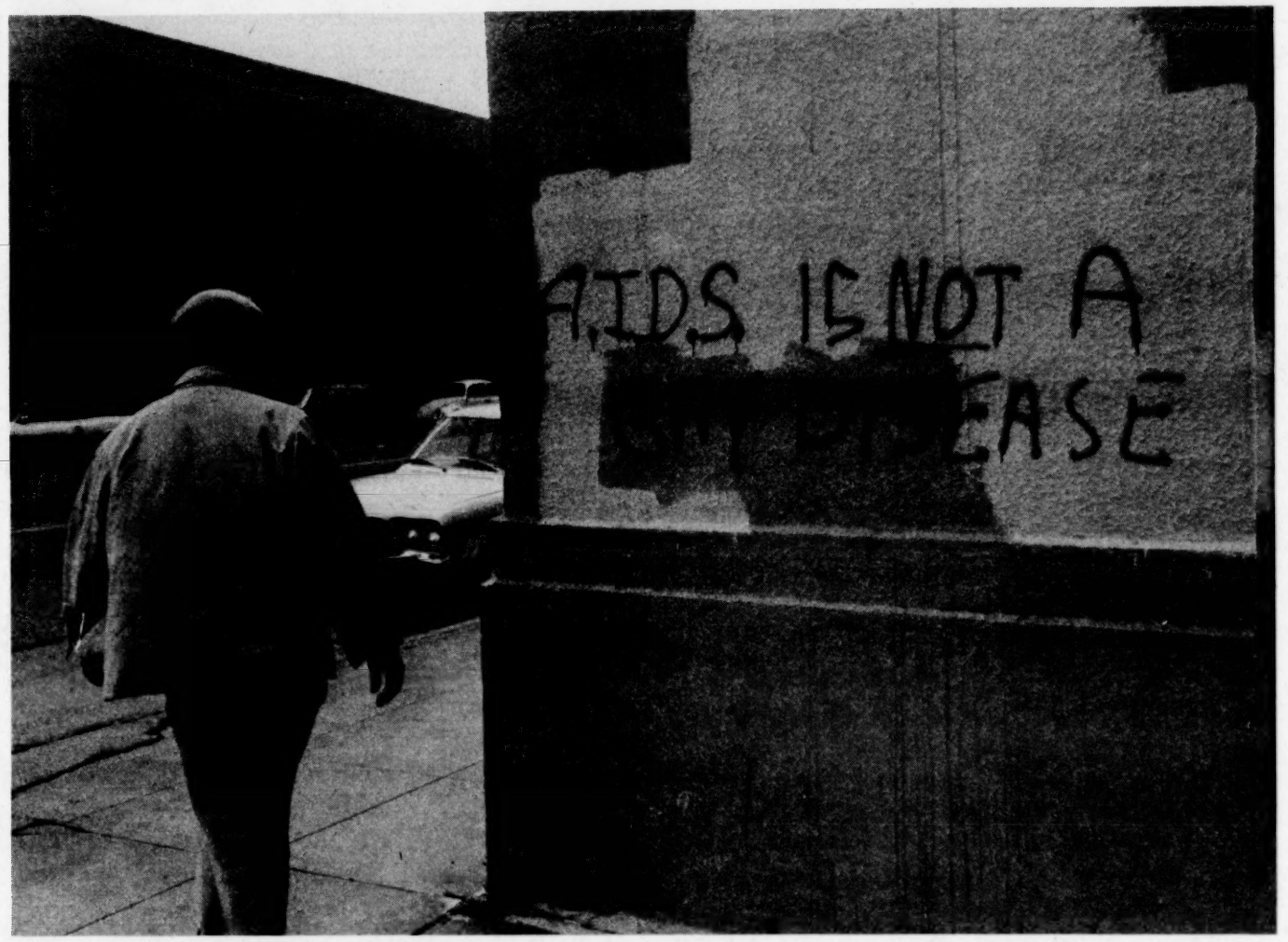
. . . In much of western Europe, wood shortages led to stone and brick house construction, and this tended to increase the distance between rodent and human occupants of the dwelling, making it far more difficult for a flea to transfer from a dying rat to a susceptible human. Thatch roofs, in particular, offered ready refuge for rats; and it was easy for a flea to fall from such a roof onto someone beneath. When thatch roofs were replaced by tiles, as happened generally in London after the Great Fire of 1666, opportunities for this kind of transfer of infection drastically diminished. Hence the popular notion that the Great Fire somehow drove the plague from the city probably had a basis in fact.



Mick Hicks

Wall graffiti in San Francisco's South of Market district, circa 1983.

pregnancy (a fertilized egg implanted outside the womb).

If none of these afflictions carries the fatal punch of AIDS, the consequences are still real enough. The rate of infertility among women 20 to 24 years old has tripled in the last 20 years — this in the face of a modest *improvement* in fertility among the general population — and the major cause is thought to be sexually-transmitted diseases. With the old sexual prohibitions mostly gone, our new sexual freedom is disturbing elemental forces. We are toying with the ecology of disease, tampering with our biology. Regardless of whether AIDS ever becomes a general epidemic, our sexual habits make us sitting ducks for a new and lethal epidemic. The situation has a biblical ring to it. An Old Testament evangelist alive today would be slinging tablets down the mountain, fulminating in the temple, foaming at the village well.

Can a man carry fire in his bosom
and his clothes not be burned?

Or can one walk upon hot coals
and his feet not be scorched?

So is he who goes in to his neighbor's wife;
none who touches her will go unpunished.
—Proverbs 7:27

Regardless of how they apply to our times, there is a kind of biological wisdom to the ancient sexual injunctions, a practical sense of what works and doesn't work that is akin to the biological wisdom of the Jewish dietary laws. If you mess with your neighbor's wife, not only will you catch it from the neighbor: mess around on a grand enough scale, and you will begin to disturb human biology itself. I think that is the teaching of AIDS.

There are other teachings as well. For scientists, AIDS is a teaching of the immune system. Their efforts to understand the disease are unlocking secrets that will have great impact on immunology, on the treatment of allergies and cancer, on our understanding of how bodies fight disease. For doctors and medical workers, caring for people they cannot cure, AIDS is a teaching in patience and humility. For gays and others facing premature death, AIDS is a teaching in living.

For Martha, my hospice friend, AIDS is a teacher also. I spent an afternoon recently listening to her story of Richard, the artist who became in his last days her client, friend, and teacher. A successful display designer for a large department store, Richard had been at 34 the exuberant and somewhat mischievous center of a wide circle of friends. He enjoyed his life, including his sexual life, and lived it fully. He was dedicated to opera and to the outdoors — to long weekends of canoeing, backpacking, and exploring the Mendocino

What do you say to someone your age, from your background, with your interests, who is visibly slipping into death? Because an AIDS patient usually dies from opportunistic diseases rather than the AIDS virus itself, death often comes rapidly after a long period of worsening, but manageable, ill health.

Jim Bell

coastline with his golden retriever. But when Martha knew him, Richard was near the end of an eight-month battle with AIDS, his weight down to barely eighty pounds, his immune system completely depleted, his lungs scarred by repeated bouts with pneumocystis pneumonia. And as the disease took residence in his central nervous system, Richard experienced periods of dementia. Still, he never submitted.

Sometimes Martha would find him wandering the halls of San Francisco's Garden Sullivan hospital, naked and disoriented, looking like an apparition from Dachau, startling patients by his very appearance. He was angry at dying so young and occasionally he took it out on his friends, angry at them for being well when he was dying. One day he threw his phone through the hospital window, wanting so desperately to go home and die. Four days before his death, Martha found him up on his knees trying to do Yoga, stretching one leg out, bringing it in, doing it with real seriousness, making one last effort for the body he had taken such good care of. In the end, he was very accepting, but he continued to have an intellectual curiosity about everything including his disease. "How will it be?" he said to Martha. "Have you seen other people die of AIDS? Am I doing it OK?"

On a morning very near the end, Richard sat up in bed. "Please take me out into the sun." To do so was an undertaking of complexity, given the network of tubes and siphons attached to his body, but after some arranging Martha got him into a chair and wheeled him out into the garden — a formal affair of squares and ovals, immaculate flower beds, and closely raked lawns untrod by human foot. Around them nurses and patients sat decorously on wooden benches, as if to reenact some period film of First World War vintage. But Richard was hardly the conventional dying hero.

"Turn me toward the sun," he said, and she did. Then he said, "Now I want to crawl on the grass."

And Martha, caught by her sense of propriety and her certain knowledge that no one at this hospital had ever done that before, said rather anxiously, "I don't think that's such a great idea."

Richard insisted, and again she demurred. And then, sitting there with that denial, there came what she describes as a radical shifting of her universe, a sense of the moment opening up in truth, of right action suddenly becoming very clear. *Why Not?*

She helped Richard up from the chair, and he fell gently onto his knees, pajama bottoms falling down, genitals free to the breeze, and crawling he went, feeling the warm earth and smelling its sweetness with Martha following behind.

"In that instant when Richard went down on his knees, pajamas askew, all that was locked inside of me about propriety and control — what's done and not done — all of it went out of me. I can only think of that as a teaching — a great gift from Richard. Hospital rules conformed to — or warm earth for a dying man."

They lay on their backs together on the grass, Martha arranging a blanket for a pillow, another to cover him. After a long silence he said, "I put you through some changes, didn't I, Martha?"

"Yes, Richard." And then he said, "And you know, Martha, all those rules — it doesn't fucking matter." And she replied, "You're right Richard, it doesn't fucking matter."

Richard died a few days later — back in his own home curled on a mattress on the floor, music playing, his arms around a favorite teddy bear. But before that Martha saw him one last time.

"I spent some hours next to him on the bed stroking him. Then I said goodbye, and that I loved him, and that I knew he had a good journey ahead. His eyes were open, I felt he was very present, and as I got up and started out the door, he became very alert. I turned to him, found I couldn't leave, and so sat beside him on the bed again. This was our last moment; we both knew it. He was trying to say something and finally he did: 'Martha, it is time for you to get up and go home.'" ■

Saint Herpes

by Stephanie Mills

illuminations by Kathleen O'Neill

Stark honesty is so rare in any subject that when it surfaces it'll slay whatever dragon is around. From her new home in Minnesota, Stephanie Mills, former editor of this magazine, confronts the dragon of herpes, with eloquent pen. She says, "Writing this essay worked like a rain dance. No sooner had I resigned myself to the satisfactions of chastity than the men who were more interested in 'us' than they were fearful of herpes entered my life and love began to bud again. Last spring, my solitude found its guardian for good. The nuptials were in June." —*Kevin Kelly*

Having herpes is like having a guardian angel, one who does the wise thing for you, when desire won't.

SOME MONTHS AGO, I got caught up in a zeitgeisty dinner conversation with a group of artists and writers. The leading question was: Were people still doing it on the first date, or were they waiting awhile? The gist of the answers was that our contemporaries had become more conservative about sexual encounters. Like a baleful beggar at a feast, I commented that the new restraint probably had something to do with sexually-transmitted disease.

The conversation immediately turned to the subject of herpes — the new leprosy, the late twentieth century's most celebrated non-life-threatening disease. Because I have herpes, my interest — and my discomfort — were acute. (Nothing like finding out what people really think about your kind when they don't know what kind you are.) Everyone by now has heard the herpes jokes: What's the difference between love and herpes? Herpes lasts forever. What's the cure for herpes? Extra-strength Tylenol; a leap from the bridge. Are celibacy or suicide the two basic options for the herpes victim? Well, it depends on who you read, and who you're with, and what vantage point you take. *Time* magazine's sensational herpes cover story of a few years ago was a convincing argument for the end-it-all approach.

Over the decade that I've had herpes, my attitudes have traveled from isolation and despair to resignation and gratitude, with a few shades of indifference between. When my spiritual condition is fair, and my mystic acceptance quotient high, I refer to my complaint as Saint Herpes; the virus protects me from a lot of amorous pratfalls that my waking ego is willing to take. (Not that there's anything wrong with falling in love and doing all the beautiful and dumb things that eros commands, but the wear and tear does smart.) Even if this is a masterpiece of rationalization, it seems preferable to pathetic self-pity, an attitude that also afflicts this herpes

person from time to time. When you have a lemon, make lemonade: I consider the attractions of chastity, a practice quite different from the one that brought me to this pass.

I knowingly, voluntarily exposed myself to herpes a few years before the hullabaloo, before the disease became a social fetish and scarlet letter conferring instant pariahdom. So, because I didn't want not to sleep with this person, who had done the decent thing and informed me of the risk, I got herpes. Less was known about it then, and far less was said. Fewer people had it, but the epidemic was getting underway. That was a time when I slept with people for love and fun, for the sake of sleeping with them; slept with them for the joy of sex itself, or for lack of enough gumption to say no. I was in my twenties, it was the seventies, and abundant sexual encounter seemed like my birthright.

And today, as far as I'm concerned, that is still a fair belief. You make love or you don't, you connect with your partner or you don't. Sex is special, sex has overarching power, and sex is free. Every good thing has drawbacks, though, and so does the enthusiastic exercise of sexual freedom. Reality is that the more partners you have, the greater the possibility that you will contract a sexually-transmitted disease, and/or get your heart broken, and/or learn an incredible amount of good and intimate truth in your lovemaking, the kind of truth that is only revealed in sex. No blame. Sexually-transmitted disease is a possible consequence, not a punishment. Living is full of consequences, and it binds us to change. So this is no repentant sinner talking, no moral majoritarian argument against free love, no case for herpes as an agent of divine retribution for extramarital sex. Mindful or mindless, caring or careless, the mode of sex makes no difference to evolution or eternity: It always has meaning.

When the disease showed up, I was dismayed, but only briefly. I couldn't appreciate then that herpes would some day become a factor in changing me from one kind of person into another.

For years, my herpes and I were safely out of public commerce in the confines of sequential monogamy with two fellow herpes victims. (The fact that in each case we had the disease in common was coincidence — it wasn't even something we thought to discuss.) It was no big issue in either relationship. In one, it mandated periods of abstinence; that was a strain, but not the one that sundered the tie. It precluded the possibility of sexually reconciling differences, of achieving the cloture that lovemaking can bring. Herpes between friends is not nothing, but the decision to risk it is behind you, and the experience of the disease has its container of intimacy: You don't have to go it alone. The advantage of herpetic monogamy is that you can get past the obsession with the disease and into knowing and delighting in the presence of another human as person, not vector. Within a relationship or out, the worst thing about herpes is that there are times when you want to make love but can't. Desire goes ungratified (as it often does in the uninfected).

Relationships tend to pass. It falls to most of us to leave the safety of monogamy for the terrors of dating, if only for a short time on the rebound. It was when my last monogamous relationship ended that herpes emerged to add to those terrors and to start reordering my life.

On my mad dash to the first available bed, my long-dormant herpes kicked up, like nemesis, a virus with perfect timing. I began to feel vague inklings of herpes (the "prodrome") hours before the possibility of lovemaking became clear. Uncertain moral actor that I am, I almost didn't tell the man. I wasn't sure whether those vague twinges could infect anyone else (medical opinion is divided on that point). Besides, I was sex-crazed by that post-parting fear that I would never know love again. Fortunately, superego whupped libido, and God made me speak up. Instead of winning the man's ardor with my late-breaking honesty, I was forced to cope with his honest aversion to contracting herpes. We cried about it together. He hoped we could be friends; if mere friends would be too much of a strain on my makeup, well then, so be it in sadness. (Thus the disease effects a role reversal: The gentleman pleading, "Can't we just be friends?") I had nothing to lose, so we became friends. Friends with a constant taint of anger and resentment on my part. Whatever else that turning point in the relationship signaled, that nice fellow's sensible withstanding of my allures registered as rejection. At once I was stripped of the power of sexual sorcery. It was a heavy blow to the pride.

Having herpes does tend to make one undesirable (except, perhaps, to a fellow-sufferer). After I had reckoned with this new reality, I had to begin to place my faith in my intrinsic worth, quite apart from gender and relationship. Identity can deepen in crisis. Part of the herpes educational program was discovering that there is life after rejection. ►

The worst thing about herpes is that there are times when you want to make love but can't. Desire goes ungratified.

FOR ALL THE DREAD that herpes occasions, the physical experience of it has been uneventful — not painful; mine never has been the nightmare version of the disease that strikes fear into the free hearts of so many swinging singles. If it weren't for other people, herpes would be far less annoying than acne. My experience of herpes, apparently, is typical. Painful recurrences are exceptional. Herpes is a major health hazard only in neonates and the immunosuppressed.

A disease is a personal relationship. Herpes is different things to different people, I guess because of the way viruses operate. A virus infection is a form of possession. Viruses are near-invisible colonizers, subcellular entities with an elegant survival strategy of invasion and takeover, a fiendish mimicry of DNA. Viruses are everywhere — they pass through filters, maybe even through condoms. Once the herpes virus comes on board, it's a lifetime companion, one which may retire quietly into the nervous system after its initial appearance never to be heard from again. Or, it may be like my friend St. Herpes, a bawdy crazy jester that drops down for a chat every time I get horny, or whenever there's a man around, just to see whether I'm paying attention.

Herpes is thought-provoking and thought-provoked. I am convinced that the fact that herpes' stronghold is in the nervous system is what makes it so mutable. Stress activates herpes and herpes activates stress. Trying not to think about it is like trying not to think about your tongue. Even people without herpes know that what goes on in your mind can arouse distinct, uncontrollable feelings in the genitals. And so it is with herpes. It becomes an integral part of you.

What makes herpes such an existential curse, no matter how unobtrusive it may be in a given individual, is its communicability. Even in the absence of symptoms, there is no guarantee that the virus won't be transmitted. Such transmission is highly unlikely, and condoms can render it even less likely, but there can be no certainty. Consequently the new herpes etiquette demands that you always inform your prospective partner that you have herpes, so as to leave them to conjure with the risks. The psychological discomfort of those moments, the strenuous effort to play fair and tell the truth and care for the other while detaching from hopes and expectations, far exceeds any physical pain that genital sores can deliver.

Herpes has shown me how selfish I can be; it has engendered a sexual greed so intense that I could just about convince myself that the symptoms I felt weren't real and so get it on without delivering the warning and risking the rejection. The subtlest symptoms, the "prodrome," may or may not lead to an outbreak of sores. The sores are highly contagious, the prodrome, just possibly. Responsibility would seem to demand forthright presentation of the worst-case scenario. However, responsibility gets harder to come by when you're beginning to wonder whether you'll ever get laid again. The prodrome, I sez to myself, could conceivably be hypochondria. Even a medical lab couldn't say for 100 percent sure whether the virus was actually "shedding." The only way to achieve certainty in the situation would be to refrain from intercourse. But sex had become a fixation for me, so I did the unspeakable a few times and slept with people during what might have been a prodrome without advising them. (In both cases, though, these partners had long before been apprised of herpes as a party to our affairs.)

In neither instance has the disease been contracted so far, but that yearned-after sexual connection was, for me, attenuated by anxiety and inner guilt. Later, one romance was demolished by herpesphobia when my partner confronted me, having developed some symptoms (but not of herpes, as it turned out). His imagination was worse afflicted

than his body and he was angry with me. Then I was angry with him. He'd been warned — somewhat — and the risk was now his responsibility. Another lover got some mysterious sores in his mouth and coolly decided that he was not falling in love with me after all. He informed me, by mail, that pleasant as our company was, the anxiety was not worth it. Only after the hurt and dismay at such partings subside can one ask would it, could it have come out any differently without herpes as a factor? How important was it, actually?

Guilt thrives in the moist atmosphere of sex and anguish grows where there is a void of shared beliefs. Herpes, I am concluding, is just a situation-heightener, throwing into sharp relief the human stuff we're made of — we prove to be hungry, needy, frightened, compromising, and sly.

S MY SEXUAL ENcounters became problematic and rare, I began to crave sex in the abstract, a disembodied sex, a commodity: sex for its own sake. Only now it wasn't so easy to come by. Distant contemplation bred molecular appreciation of the sex drive. I began to feel it in my bones, in the cells of my body, in my chromosomes and midbrain. I became the egg's enormity of wait and spherical receptiveness. I wanted the enlivening presence of millions of madly traveling, take-a-chance, go-for-it potentiators. I missed the scramble of sex, the wonder of finding one body inside another, with currents of life coursing past boundaries of self. I began to perceive sex as a raw force by which our clever, thoughtfully-crafted selves are driven like robot cars to sudden collision, with mother Nature cackling at the evolutionary controls. It takes the power and lure of sex to breach persona and ego, and make monkeys out of the experts on healthy, sensible love. This transcendent understanding of sex was a gift from St. Herpes. Away from sex, I pondered its holiness, the perfection of surrender it offers, and earthly version of the perfection that lies beyond opposites and distinctions. Irony compounded irony. If my body wasn't getting any, my mind surely was.

A little obsession goes a long way, though, and it became a mistake to think of sex outside its personal context. As a result of scarcity, I developed what my friend Sarah diagnosed as "penis-vision," a tendency to regard all men, even and especially slick and greasy characters whizzing past on the freeway in their big cars, as potential lovers.

The irony is that adapting to herpes demands a temperate, considered sexual ethic from a person who wouldn't have contracted herpes in the first place if she had had a temperate, considered sexual ethic. Herpes and other of life's learning experiences have convinced me that irony is a hallmark of the good God's handiwork. Being hit with the cream pie of fate is a clear sign that the lesson was necessary. I don't believe in abstinence or privation as goods in and of themselves, but learning to live with them has been beneficial to me.

The problem is, as the writer Anne Herbert wryly observed, "It's hard to live *ultimately.*" Philosophizing was swell, but it didn't alter the reality that herpes murders romance. Sure, it's possible to abuse romance, just like a drug. Nevertheless, even when the killing of a romance may be a mercy, euthanasia is still a death. Blind, flying, spontaneous leaps into the sack are a thing of the past. Every tentative embrace calls for a Miranda reading: You have the right to remain silent. You have the right to consult a physician. I have herpes. Here's some free medical literature. Can you read it in that candlelight?

It's just plain heartbreaking to have to wrestle the cherubs of infatuation down to the plane of intellect. Having to consider, at the very beginning of an affair, whether that affair is likely to be worth catching an incurable nuisance of a disease is miserable. Yet one must make that impossible decision before the sweet poetic fulfillment of mutual fascination can be found in a lover's arms. It takes an insanely romantic temperament to make such an affirmative imaginative leap. And because of the fragility of relationships, most of today's possible partners are battle-scarred veterans, so emotionally flayed and slow-healing that they doubt that any good thing between the

sexes is either possible or worth daring, herpes or no. The thought of the disease just compounds the dread of emotional pain. I share that dread. Yet I know that the elaborate, unconscious craziness that proliferates in avoidance is worse than pain itself, more confusing. Pain has the decency to ask a simple question. Fear just pretends to have an answer.

SO HERPES BECOMES an agent of natural selection, weeding the faint hearts out of the available universe of lovers. It gives ample reason for turning back, a handy focus for all the doubts and hesitations that smite the smitten. For the man with a deeper interest (or his own case of herpes), the disease provides a point to ponder. Even in the most amorous affair, there's a lot more communicating and negotiating per day than there is lovemaking, so partners might as well broach and resolve a complicated situation beforehand, just for practice.

Because of its habitation in the nerves, and by extension, the emotions, herpes has a quality of being compensatory, or moral, or asked-for. It's difficult (and not altogether truthful) to objectify and isolate the disease as not-me. Yet it's necessary to talk about it rationally without being defined by it, in spite of the fact that the disease reflects one's inner life. Herpes shows me how I treat myself, how I enjoy the adrenal glamours of stress. When I'm hectically caught up in my own importance, I'm vulnerable to an outbreak. So I have to be humble enough to sleep. There are limits to what I can or will do to fend with my herpes, but it always brings me back into awareness of my body — it makes me mindful of what I'm consuming, it notifies me when I'm defying my natural limits, and it actualizes the penalities of living in the head, or paying exclusive attention to the chatter of waking consciousness. Meditation, they say, may alleviate herpes.

In the midst of all the high seriousness of the herpes uproar, it's been commented that this is mainly a worry of the affluent, the kind of physical complaint that only becomes noticeable in a context of prosperity, good health, and sexual freedom. Although in my own life accepting the conditions the disease imposes has taken a long deep while, I know that herpes is also trivia, just a twist of fate that sets things in motion.

Having herpes is having a guardian angel, one who does the wise thing for you that desire won't let you see. Having herpes is being a princess in a tower in the midst of a forest of thorns, a princess awaiting a prince who'll risk his flesh for love. Sometimes, enervated by hot, dashed hopes, I come to my senses and awaken alone, relieved to be unencumbered. I light a mental thank-offering to St. Herpes, the exasperating.

The paring away of my conquests and love affairs has been a blessing in heavy disguise. In the wide spaces between brief melodramas, I've come to revel in my solitude. Herpes has taught me to live by my self. Partly from resignation and partly from the pleasure of my own company, I see myself coming to cherish the small solid pleasures of my daily round, with no mate to chagrin my morning prayers.

The big project before us always is self-knowing and self-forgetting, opening the higher lines of communication. Herpes is the dragon at the gate, securing my privacy and mocking my lust. It turns out that we need each other, the virus and I. I've thought about it long and hard, and I've concluded that herpes is God's way to make a point about sex with honor. These days, I don't want my body writing checks that my soul can't cash. ■

CINDY CRAIG: For additional information about herpes, the following are recommended by the Herpes Resource Center:

The Truth About Herpes *provides a good emotional overview as well as excellent medical information. It's sensitive to the individual, easy to understand, and is, according to HRC Director John Graves, "the best book available."*

Also recommended is the booklet Coping with Herpes: The Emotional Problems. *It's an instructional approach to dealing with the emotional problems people with herpes often face.*

I continue to recommend the Herpes Resource Center. It's a supportive and knowledgeable source of current information about herpes. Their newsletter, The Helper *(WER #45, p. 48), addresses emotional concerns and provides updates about herpes research.*

The Truth About Herpes *by Stephen Sacks, M.D., 1983; $10 postpaid from the Herpes Research Center, P.O. Box 100, Palo Alto, CA 94302 or Whole Earth Access.* Coping with Herpes: The Emotional Problems *by Vincent Greenwood, Ph.D., and Robert Bernstein, Ph.D., 1982; $3.95 postpaid from the Washington Center for Cognitive Therapy, P.O. Box 39119, Washington, DC 20016 or Whole Earth Access.* The Helper, *John Graves, Editor; $20 annual membership (includes 4 issues) from Herpes Resource Center, P.O. Box 100, Palo Alto, CA 94302; information free with SASE.*

Advances

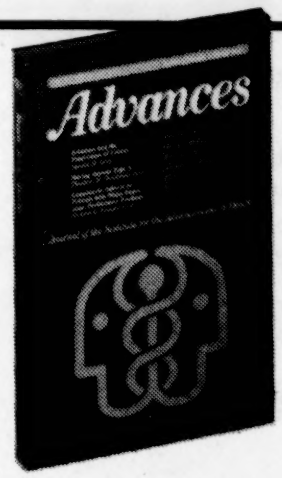
TOM FERGUSON, M.D.: This scholarly, readable new quarterly has already established a fine reputation for publishing many of the freshest and most exciting pieces on the body-mind connection. Recent issues have carried articles on the health-enhancing effects of positive emotions, learning to program "unchangeable" bodily processes, complementary cancer therapies, measuring health, "The Sense of Coherence as a Determinant of Health," and, as they say, much, much more. One of my favorite sections, "Second Reading," reprints classic papers of the past. Another, "Abstracts," provides an extensive listing of recently-published studies in related fields. If your turf includes biofeedback, behavioral medicine, stress, biobehavior, psychosomatic medicine, imagery, placebo effects, or psychoneuro-immunology, you should find ***Advances*** *a regular goldmine.*

•

Controlled experiments on the use of hypnosis to remove warts are relatively rare. One such study appeared in 1973, and we reprint it here to encourage further research and discussion. In the decade since the study's publication, its results have become all the more intriguing in the light of the growing body of knowledge about the connections between the mind and the immune system.

Hypnosis in the Treatment of Warts
(Reprinted with permission from *Archives in General Psychiatry,* March 1973.)
Owen S. Surman, Sheldon K. Gottlieb, Thomas P. Hackett, MD, and Elizabeth L. Silverberg, Boston
This study was designed to test the hypothesis that warts are treatable by hypnotherapy. Seventeen experimental patients with bilateral common or flat warts were hypnotized weekly for five sessions and were told that the warts would disappear on one side only. They were reexamined three months from the time of the first hypnotic session. Seven patients who were untreated were also reexamined at the end of three months.

Fifty-three percent of the experimental group improved. No improvement was observed among untreated controls. These findings support the hypothesis that warts respond to hypnotherapy. Whereas specific lesions could not be influenced selectively, the findings suggest that hypnosis has a general effect on host response to the causative virus.



Advances
Harris Dienstfrey, Editor
$35 annual
associate membership
(4 issues) from:
Institute for the
Advancement of Health
16 East 53rd Street
New York, NY 10022

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Immunologic Aspects of Mental Disorder
Kiecolt-Glaser JK, Ricker D, George J, Messick G, Speicher, CE, Garner W, Glaser R. "Urinary cortisol levels, cellular immuno-competency, and loneliness in psychiatric inpatients." *Psychosom Med.* 1983; in press.

This study examined the associations among loneliness, stressful life events, urinary cortisol levels and immunocompetency. Blood and urine were obtained from 33 psychiatric inpatients on the day after admission, at which time the patients completed the UCLA Loneliness Scale, the Psychiatric Epidemiology Research Interview Life Events Scale (PERI), and MMPI. Patients who scored above the median on loneliness had significantly high urinary cortisol levels. The high loneliness group also had significantly lower levels of natural killer cell activity, as well as poorer T-lymphocyte response to phytohemagglutinin. The high loneliness subjects described themselves as more distressed than the low loneliness group on the MMPI. There were no consistent significant effects on either the immunological measures or the MMPI associated with the PERI.

Walk Me to the Water

TOM FERGUSON, M.D.: This is the best short film on real dying I've seen. Three ordinary people. Each one with cancer. Each facing death. Some at home, some in the hospital. Each does it in his or her own very individual way. I came away awed and quiet, feeling, "Maybe I could do that too."

Walk Me to the Water
John Seakwood
1984; 28 minutes
Videotape
rental:
$65
purchase:
$325
16-mm film
rental:
$85
purchase:
$425
from:
Walk Me to the Water
P. O. Box 258
New Lebanon, NY 12125

Marion's daughter, Susan: "There was a lot of hard times and it wasn't easy, but a lot of good came out of that too. I feel as if I've grown as a person. I wasn't sure if I had it in me to take care of her and I found out I did and a lot more."

Teaching Aids at Low Cost

ANDREW ROUSE, M.D.: The Tropical Child Health Unit, London, puts out valuable teaching aids on a broad range of medical subjects pertinent to underdeveloped regions. Their series of slides depicting tropical illnesses, common diseases, and proper health procedures is particularly excellent, cheap, and informative — cost: $3.00 for each 24-slide set. Many of the books/pamphlets they provide are free; none are above $10. Special low prices prevail for those ordering from third world countries.

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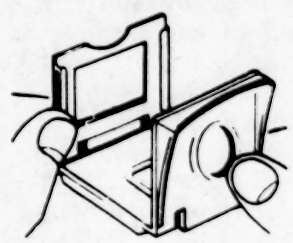
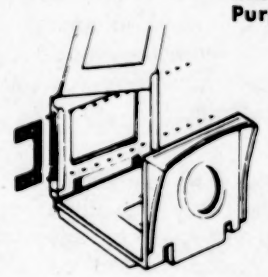
Low Cost Health Books

Refugee Community Health Care: *Stephanie Simmonds* — Excellent and clearly writen. Of value to all those concerned with community health care and, of course, particularly those working in refugee situations.

Sanitation Without Water: *Winblad, Kilama* — Practical information on how to design, build and operate compost and improved pit latrines.





Teaching Aids at Low Cost

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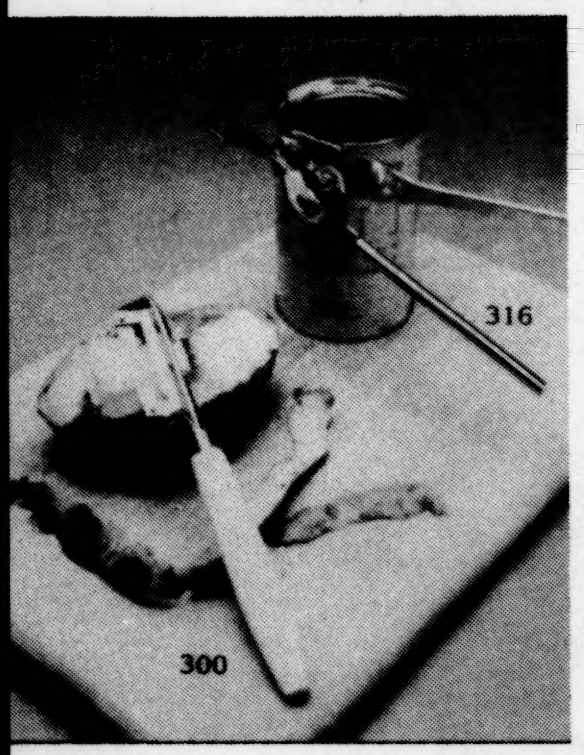
Teaching Aids
at Low Cost
P.O. Box 49, St. Albans
Herts AL1 4AX
England

With every slide order we send this Free Multi-Purpose Viewer.



Lefthander's Catalog

KEVIN KELLY: A modest selection here of household gadgets and tools designed for southpaws, including a few for the ambidextrous.

•

Traditional Can and Bottle Opener
It's back to the basics with this tried-and-true, long-wearing can opener. Fashioned of stainless steel, this can opener will serve you well. The handles and turnkey are constructed for left hand use. The upper handle doubles as a bottle opener, too.
316 . . . . . $5.00

•

Lightweight Steam/Dry Iron
Sports a Silverstone® finish on the soleplate which insures smooth handling; adjustable cord allows convenient lefthanded use — all for a very special price. Includes one year manufacturer warranty.
350 . . . . . $34.50

Lefthander's Catalog

$1.50
from:
Lefthander International
P.O. Box 8249
Topeka, KS 66608

Hitchcock Wide Shoes for Men

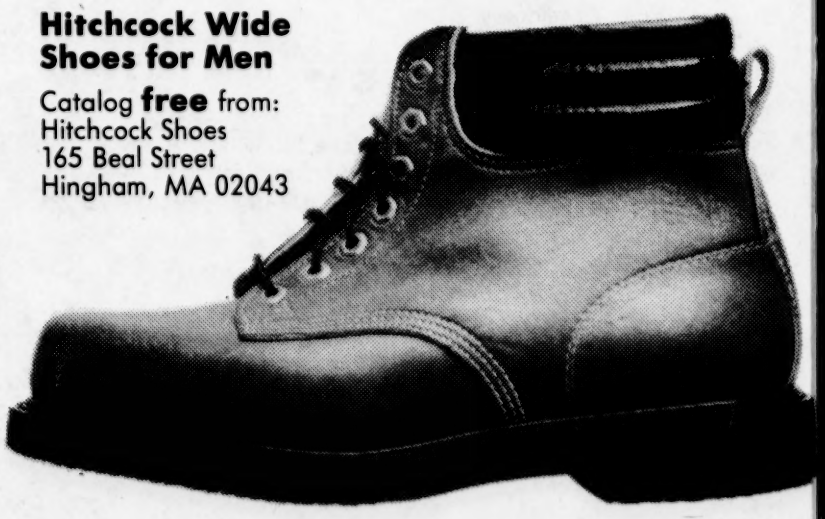
TED SCHULTZ: My shoe size is 9EEEEEE. For many years I was doomed to wearing poorly-fitting shoes many sizes too large, or Oriental "tai chi shoes" (slippers, really) — not very convenient on a rainy day. My podiatric rebirth occurred one day a few years ago in the form of a small display ad in the local Sunday supplement . . . my relationship with Hitchcock Shoes had begun.

Hitchcock specializes in wide shoes for men — most of their styles can be had in widths of up to EEEEEE. They've got everything: slippers, dress shoes, walking shoes, boots, golf, bowling, and tennis shoes, work shoes, even New Balance running shoes and hiking boots made in extra-wide widths especially for Hitchcock. Their service is excellent, and though you may have to go through several cycles of return-and-exchange to settle on the right size in a particular style, they're graciously set up to accommodate this natural requirement of mail-order shoe buying. They even keep a file on the peculiar shape and size requirements of each of their customers. If you're a long-suffering sledgefoot like me, I could do nothing better than to direct you to the address below.

442. Very lightweight, thanks to its Vibram crepe sole, our good-looking 6-inch boot of russet cowhide has a deeply cushioned insole, comfortable padded collar and all-around Neoprene stormwelt. Sizes 5-11, 12, 13, EEE, EEEEE and EEEEEE. $50 (add $1 for size 13).

Hitchcock Wide Shoes for Men

Catalog **free** from:
Hitchcock Shoes
165 Beal Street
Hingham, MA 02043



Being Poor in America

by Cathy Naylor

Being poor in America means living in your car by the river (with three kids), reading about the starving, homeless people in Africa, and feeling like you wish you could do something for them.

Being poor means getting a lot of advice. It means usually not being able to follow the advice, because you have very little choice about what to eat, what to wear, what job to work at, what to do with your spare time, and most of the other things which people are constantly advising you about. It means feeling frustrated because you also get advice about how to feel about it all, which was the one area which you might have used for personal expression.

Being poor means being tired.

Being poor means being on the verge of a nervous breakdown — for ten years.

Trying to get on welfare means being treated like you got kicked out of high school for cheating and being dumb, and being expected to fill out forms and comply with conditions which only a college graduate in the fields of criminal justice and English composition could understand.

Being poor means being suspected of laziness if you spend any time or money on relaxation. Any at all.

Being poor is when the clothes they sell at the Salvation Army are too expensive. Even at three quarters off.

Being poor is buying a bag of potatoes and a bag or rice to last for two weeks, and running out in ten days.

Being poor is knowing who your real friends are.

Getting assistance with food means having to fill out forms that say what you had to eat yesterday, so a nutritionist can check up on you, and not wanting to think about what you ate yesterday because it was so horrible.

Having a poor diet means your brain is so sick from an absence of fruit and vegetables, you forget you ought to eat them.

Being poor means having your teeth fall out.

Being poor, young, and ambitious means renting the cheapest place in the county, 30 miles from college, hitchhiking to school every day, and graduating with honors in Biochemistry.

Few people look uglier than the proud rich, seen through the eyes of the scorned poor.

Being a true aristocrat means not getting bitter. About anything or anybody. Or about their absence. ■

As a mother of four who had to live below the poverty level for the first five years of her marriage, Cathy Naylor wrote this poem during a cross-country bus trip she made with her one-year-old daughter and only $2. She and her husband Kevin live in Ashville, North Carolina, where he works, and she goes to school.
—Kevin Kelly

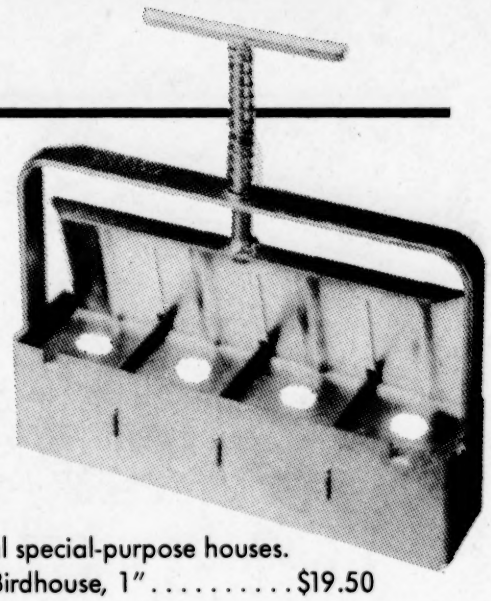
Green River Tools

RICHARD NILSEN: This mail-order catalog offers a broad selection of high quality, mostly imported hand gardening tools for both amateurs and professionals. Green River Tools is what David Tresemer's company, By Hand and Foot, Ltd., has grown into since we reviewed it in two places in ***The Next Whole Earth Catalog*** *("Scythes," p. 130, and "The Woodsplitting Tool System," p. 210). Much of the emphasis here is on gardening tools used together in organized and sophisticated systems. Both the inspiration and many of the selections come from European market gardeners, resulting in tools that are often wonderful combinations of tradition and innovation. Browsing this catalog is a real learning experience, and the amount of duplication between it and Smith & Hawken (***NWEC*** p. 129) is surprisingly small.*

•

A New Kind of Birdhouse
In Germany we found a series of remarkable birdhouses, the result of years of research specifically on bird nesting. A unique mixture of wood and concrete — coated with a nontoxic paint that keeps moisture out but lets the house "breathe" — these houses will last an average of 20 years with no maintenance other than cleaning. They have a removable front and a wire hanger that lets you put them in a tree without a ladder, using our pole hanging device. Birds love these new houses. They provide the round nest sites birds prefer, and they can be hung or rested almost anywhere — in trees, on buildings, on poles or fenceposts. Available in orchard models, forest

Green River Tools
Catalog **free**
from:
Green River
Tools
5 Cotton Mill Hill
P.O. Box 1919
Brattleboro,
VT 05301



models and several special-purpose houses.
0716-01 Orchard Birdhouse, 1" $19.50

•

Ladbrooke Soil-Block Makers
These are the *original* Soil-Block Makers designed by British engineer and gardener Michael Ladbrooke. They're smooth and precise, with solid steel construction — zinc coated — to ensure years of trouble-free service. (Be wary of inferior imitations that have begun to appear since our introduction of Ladbrooke's system.) One hand is all it takes to press out four perfect 2" blocks at a time, complete with depressions on top for seeds. Also available in a five-block model that makes 1½" blocks — recommended for people concentrating on herbs and flowers. Transplants in Soil Blocks and a seed-sowing stick included with either model.
0502 Standard 4-Block Soil-Block Maker $18.50

The Garden Seed Inventory

*RICHARD NILSEN: Kent Whealy of the Seed Savers Exchange has spent the last three years with an Apple computer and has revolutionized the buying of vegetable seeds. Seed Savers Exchange (***NWEC*** p. 100) lists and distributes family and heirloom vegetable varieties that would otherwise die out with old gardeners and be lost to the gene pool. This new book does the same for all non-hybrid vegetable seed still offered for sale by seed houses in the U.S. and Canada. The problem of irrevocable loss is similar here, because as smaller seed companies get bought out and merged, frequently into multinational corporations, their inventories are often drastically reduced in favor of hybrid varieties.*

The Garden Seed Inventory *is a piece of cataloging heroics: 5,785 varieties from 239 seed companies (wholesale and retail) are inventoried, each with three lines of printout, and are listed alphabetically for each species of vegetable. That's it, for more than 400 pages; no illustrations. If you're a gardener and you have been buying your favorite special chili pepper from the same seed catalog for years, only this year it's NOT THERE, you look that variety up here and find out who else sells it. If you're a northern gardener faced with a short growing season, you scan the column that lists days to maturity for each variety of a kind of vegetable, and come up with whatever is quickest and best for your situation. And if you're Kent Whealy, you notice with alarm after completing this mammoth task that 48 percent of the varieties listed in this inventory are available from only one source out of a possible 239, and you make plans to buy some ground in northeastern Iowa to set up a preservation farm where these endangered commercial varieties can be maintained and kept from disappearing forever. If this book generates enough money, that's exactly what he plans to do. In the meantime, anybody wanting to grow vegetables should begin with this book. Even if you don't want to get lost for a while in the marvelous minutiae of nearly 6,000 listings, this book still has the names, addresses, and prices of 239 seed catalogs, which is way more than I've ever seen listed anyplace else.*

•

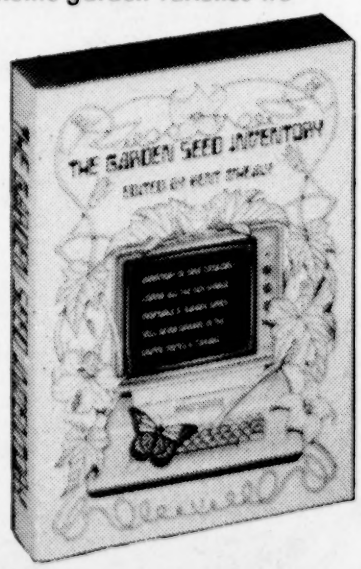
When a large corporation buys out a small, regional, family-owned seed company, it invariably drops the former owner's collection of standard varieties and replaces them with the more profitable hybrids and patented seeds. The new corporate owners are only concerned with profits and usually switch immediately to generalized varieties which will grow reasonably well anywhere in the country, thus assuring the greatest sales in the company's new nation-wide market. No thought is given to preservation or the fact that the collection of seeds being dropped is probably the reason that company was successful in the first place. Often these regionally-adapted collections represent the life's work of several generations of seedsmen within these families.

Such losses might be viewed with less alarm, if the varieties being dropped had been superseded by superior ones as was often the case during the first half of the century. But *the garden seeds currently being dropped from the catalogs are the best home garden varieties we will ever see.*

Variety Name — Range of Maturities — Source Codes

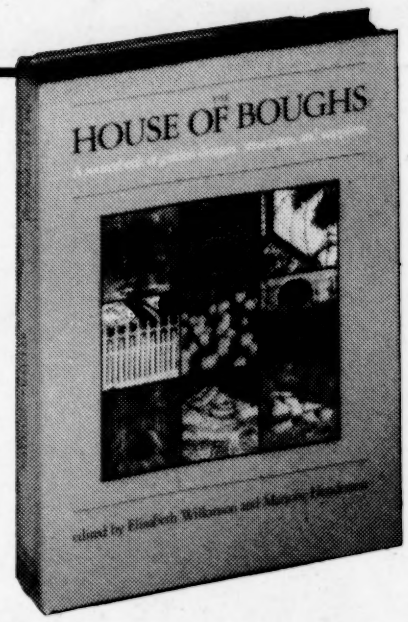
```
ROUMANIAN HOT                  065-075  AN BA 84 HE NI P2 RM SI 83 84 GE V2
BLOCKY 4 X 2.5" MED-WALLED FRUITS, TAPERS TO BLUNT POINT, YELLOW > RED, MED-HOT,
UPRIGHT  14" PLANTS, BEARS UNTIL FROST, FOR HOME OR PROCESSING  (ROUMANIAN WAX).
                                                                 Synonym
```

The Garden Seed Inventory
Kent Whealy, Editor
1985; 448 pp.
$12.50
postpaid from:
Seed Savers Exchange
203 Rural Avenue
Decorah, IA 52101
or Whole Earth Access



Virginia rail fence.

The House of Boughs
Elizabeth Wilkinson and Marjorie Henderson, Editors
1985; 239 pp.
$36 postpaid from:
Viking Press
299 Murray Hill Pkwy.
East Rutherford,
NJ 07073
or Whole Earth Access



The House of Boughs

RICHARD NILSEN: This book describes practically everything that has ever been put into a garden that is not a plant. From ancient Egypt, Persia, and China, through Europe, Japan, and into the contemporary American backyard, a common theme emerges: a garden is an attempt to construct an earthly paradise. The broad historical scope is made manageable by an encyclopedic format and a judicious selection of subject headings: ". . . Gateways, Gazeboes, Grottoes, Hedges, Lighting . . ." The black-and-white illustrations are either contemporary photographs or graphics taken from old books; they are too numerous to caption individually, and instead get referred to in the accompanying text. I generally prefer captioned photos, but in this case their omission works — the eye is freed of all the tiny print and can go hunting and comparing. Above all, this is an idea book. Not everything here will fit in your yard, but the richness and variety of the details are definitely inspiring.

•

The advocates of the romantic school of landscape design saw garden houses as ideal vehicles to create sensational and exotic points of interest. A hermitage was considered one of the most desirable of these effects, and if it housed a "hermit," so much the better. A man of appropriate appearance, who was willing to let his hair, beard, and fingernails grow and remain mute for a specified number of years, could retire after his service with a comfortable nest egg. The hermitages were grotesque little buildings; the walls were often made of twisted roots crudely filled with plaster, the roofs were thatched, and the floors were bare earth, or occasionally paved with sheep's bones.

•

One of the most widely used forms of rural fencing in the early days of the American colonies was the Virginia rail fence; variously called a *worm*, a *snake*, or a *zigzag* fence because of its serpentine form. New Englanders, in revolutionary times, had a saying that a staggering drunk was "building a Virginia fence." In the well-wooded southern colonies these fences were the least expensive and most versatile type of barrier that a farmer could build.

•

Tree Houses. A tree house may be anything from a few boards nailed together by ambitious children after reading *Swiss Family Robinson* to a guest house designed by an architect. They have been called *arbors, bowers, crow's nests, roosting places, tree seats,* and *tree rooms*. The common factor is that all are made above ground level and in or around a tree.

Tree House.

agAccess

J. BALDWIN: A slim, bimonthly catalog of books and software doesn't seem like a big deal at first, but this is an almost unbelievably useful service, long needed. The agAccess folks offer to sell "every agricultural book in print," and to find you a reference on virtually any agricultural subject. The catalog consists of expert reviews of various publications and computer software programs useful to farmers. Though accenting the organic and generally eco-righteous, the service covers all sorts of cultivation — even turf for golf courses. It's run by nice people too.

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(6 issues) from:
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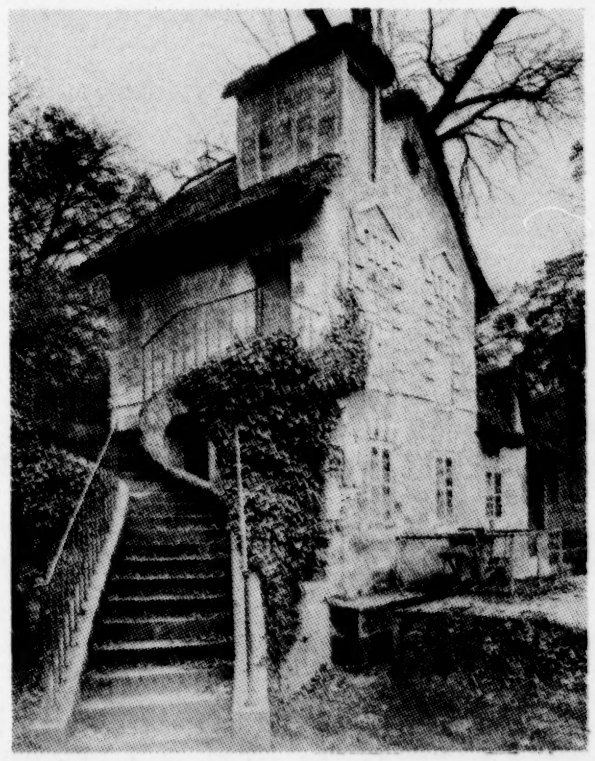
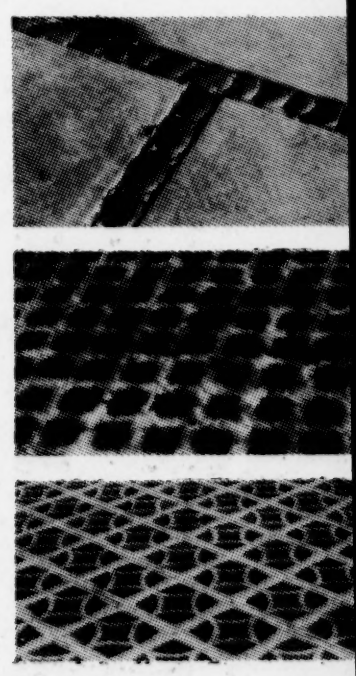
Vacaville, CA 95688



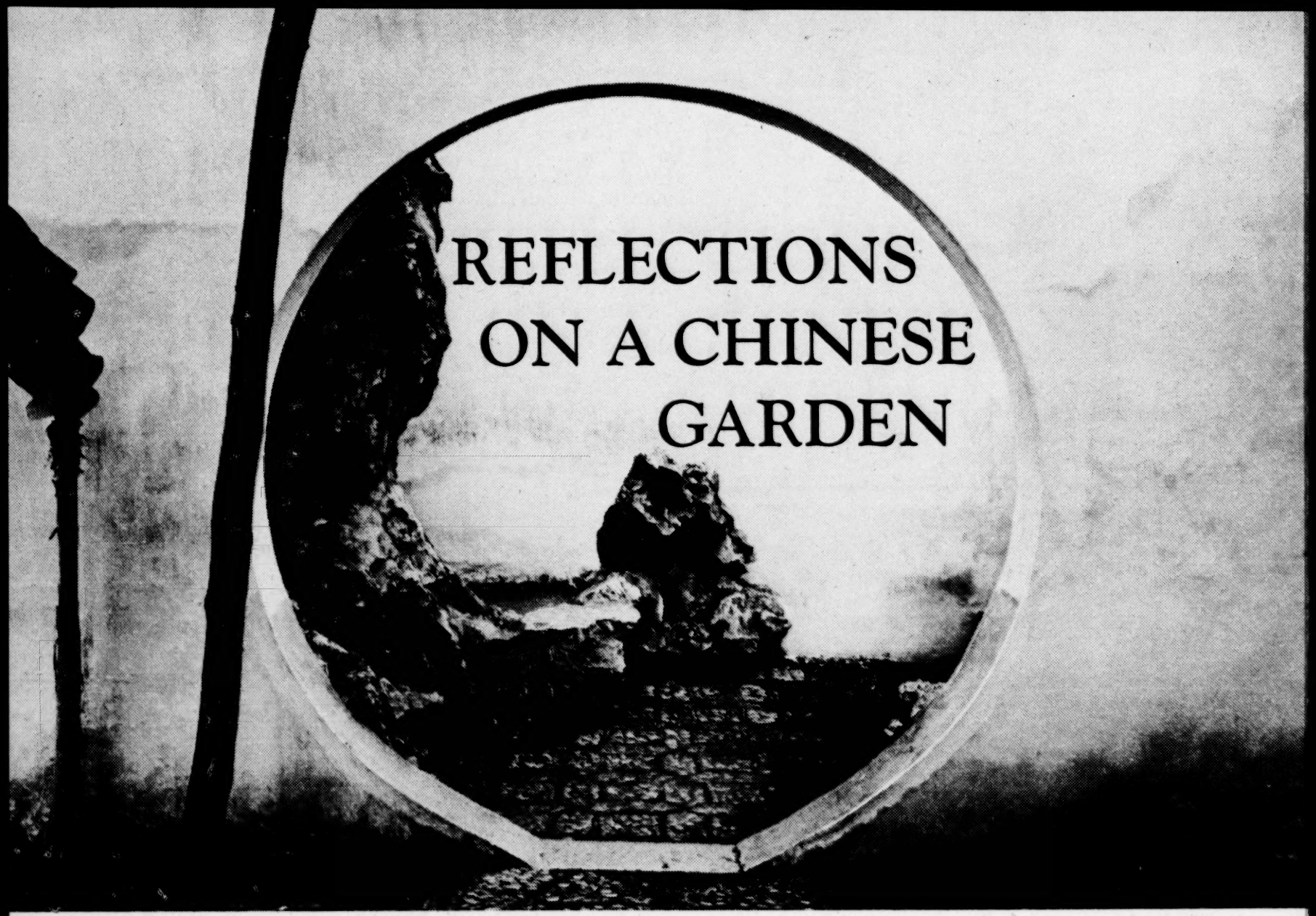
An estate hermitage.



Concrete paving.

•

Concrete has been used for paving since Roman times. Examples excavated at Pompeii were made of pounded tile mixed with lime, producing a red matrix into which small black-and-white marble tesserae were set to create patterned fields and borders. This method was used for both interior and exterior paving, but where it was to be exposed to the weather, it was waterproofed with a mixture of oil and lime.



REFLECTIONS ON A CHINESE GARDEN

LIA YUAN
SUZHOU

by John Visvader

calligraphy by Keiko I

There is no prescribed environmental ethic required by this small wilderness.

A CULTURE USUALLY REVEALS ITSELF more in its luxuries than its necessities, and the construction of an ornamental garden will often be the occasion for employing many of its highest arts and skills. This is particularly true of Chinese gardens, which were usually designed by landscape painters who were also accomplished in poetry, music, calligraphy, and philosophy. And so from one point of view the Chinese garden was a multi-media artistic enterprise, it was a place of beauty and pleasure. But our own experience with and understanding of gardens will not be sufficient to enable us to appreciate the most significant aspects of the Chinese garden. Besides its obvious aesthetic appeal it also had what we might refer to as moral, psychological, metaphysical, and magical functions.

Bar Harbor, Maine is the home of the College of the Atlantic, where John Visvader teaches philosophy and human ecology. From our far east, a quiet Yankee voice on the design harmonies of the far Far East. —*Kevin Kelly*

All these functions were not clearly distinguished in Chinese culture but were all involved, more or less, in what the Chinese referred to as "correct behavior." Correct behavior was revealing, harmonious, and influential. It was revealing in the sense that one who acted correctly showed or expressed his or her deepest nature, it was harmonious in the fact that it fit and reflected the nature of things and persons that were either witness to or objects of the behavior, and it was influential because correct behavior possessed a power of excellence (*Te*) which produced a resonance in its surroundings, calling forth similar behavior in both the human and natural worlds. This latter ability of excellence to draw forth excellence is bound to seem somewhat magical to us because we have a different understanding of causal relationships than did the Chinese.

HU QIU
SUZHOU

All photographs from The Art of Chinese Gardens, *(Hong Kong University Press, 1982).*

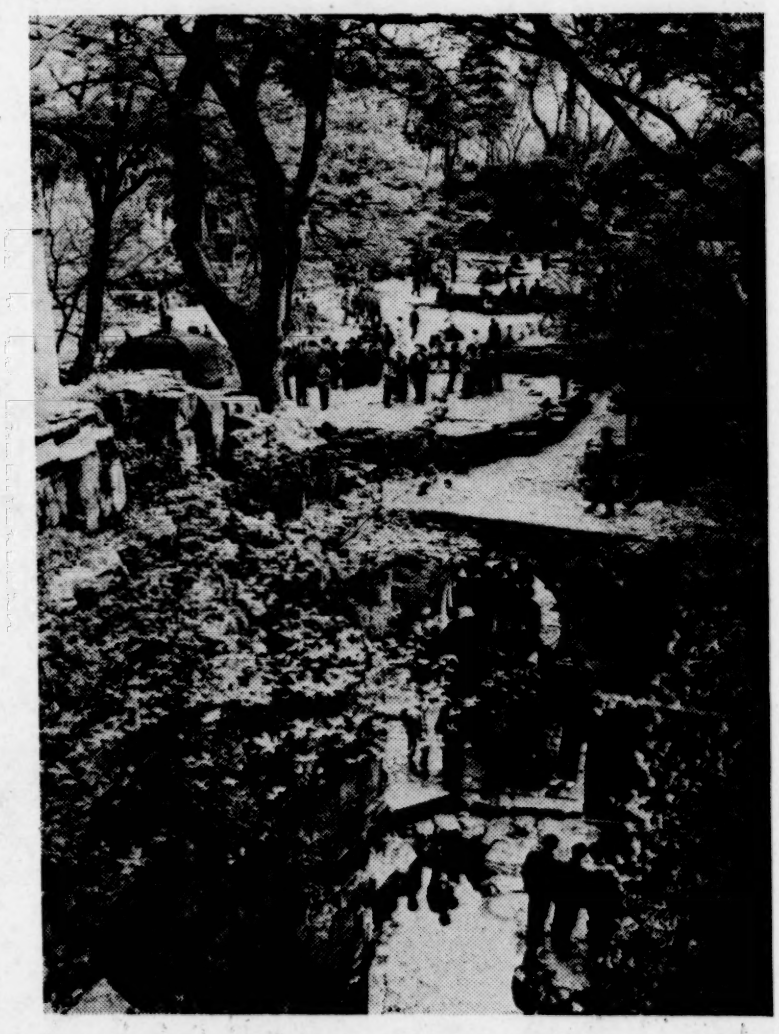
Our own notion of correct behavior is usually confined to the area of ethical or moral concern and its related realm of etiquette or manners. It is almost exclusively applied to the social world. This leaves out of account our relationships to what some existentialist psychologists call the *Umwelt*, or "surround-world," the non-human realm of nature. It is revealing in this sense that when we refer to nature we usually do not include ourselves; nature is the part of the world that is left over when we subtract the human. We are thus left with the problem, particularly severe today with our "environmental concerns," of trying to bridge the gap between two things which have been so deeply divided. Our cultural gifts from both the Greeks and the Hebrews have allowed us to construe our identity more or less independently of the surround-world. The story of the Garden of

Eden is a powerful metaphor both of the birth of what we consider to be our peculiar and important human characteristic of self-conscious moral awareness and also of our banishment and exile from our innocent unity with nature.

It seems interesting that this dwelling place of innocent harmony was called a garden and not a wilderness, for it is clear that Adam and Eve did not "garden" in any sense, they did not cultivate or arrange anything in the sense usually implied by the term "garden," but merely lived in a natural setting as might certain tribes of hunters and gatherers. A garden is to be understood in this sense, I believe, as a place of harmony, a place where people and nature cooperate and get along in a special way. A wilderness is a place where there is wildness from our point of view, where there are things that threaten or do not complement our nature, a place where we are intruders and strangers. The expulsion from Eden was due to disobedience, from eating of the fruit of moral knowledge. From a Chinese point of view Adam and Eve turned a garden into a wilderness or wild place by imagining themselves to be superior to the garden, by trying to be equal to the creator of the garden. The moral knowledge they gained told them that gods

and humans were qualitatively different from and superior to the world of nature. Thus they narrowed the realm of obligatory behavior and chose to be associated with gods rather than gardens, and from a Western point of view struck a good bargain despite the special new set of burdens their decision entailed. (Some feel the companionship of gods is worth the loss of innocence and estrangement from the garden.)

HU QIU
SUZHOU



But the Chinese have never given much credence to the belief in a creator-god and so such a bargain must seem ill-conceived. A creator-god makes sense when the world is seen as an artifact, something made by someone. Paley's proof of God's existence, his argument from design, presupposes that the human eye is very much like a watch, something that shows the design of an artificer. Something designed needs a designer and so the world which shows a design needs a designer. The Chinese would readily embrace Hume's suggestion that the world is more like a cabbage, which also shows design but has no designer or maker. The Chinese word for nature is *Tzu Jan*, which can be translated literally as the "thus-so" or the "self-so" — that which is of itself so. This is contrasted with the "made-so" or the artificial. The world is thus something that is of itself so and does not need to be made so, it is spontaneous and does not need a special transcendent entity or principle for either its origin or its continuance. Metaphysically it is a kind of flat world with nothing either above or below it in terms of worth or reality. Human beings are embedded in the natural world in a very special sense; they do not possess individual souls which are a reflection of an eternal creator and which would elevate them above the world of the coming-to-be and the passing-away. If the Chinese mention a soul it is one that possesses a dual nature similar to the one believed in by the early Greeks. A *P'o* or *Thumos*, which represents the life force or the blood-soul, goes back to the earth at death, and the *Hun* or *Eidolon*, a wraith or phantom, can sometimes linger on like a weakened shadow.

If there are no atomistic and metaphysically independent selves, then the human self is to be understood and defined in the matrix of relationships. Humans are thus part of the web of life; there is only transformation and not continuance. What does continue is the cycle of transformation, and this is governed by the interactions between the nodes in the matrix or web of life. In this sense, the Chinese have a nodal concept of individuality which is very much like a standing wave produced by fluid phenomena.

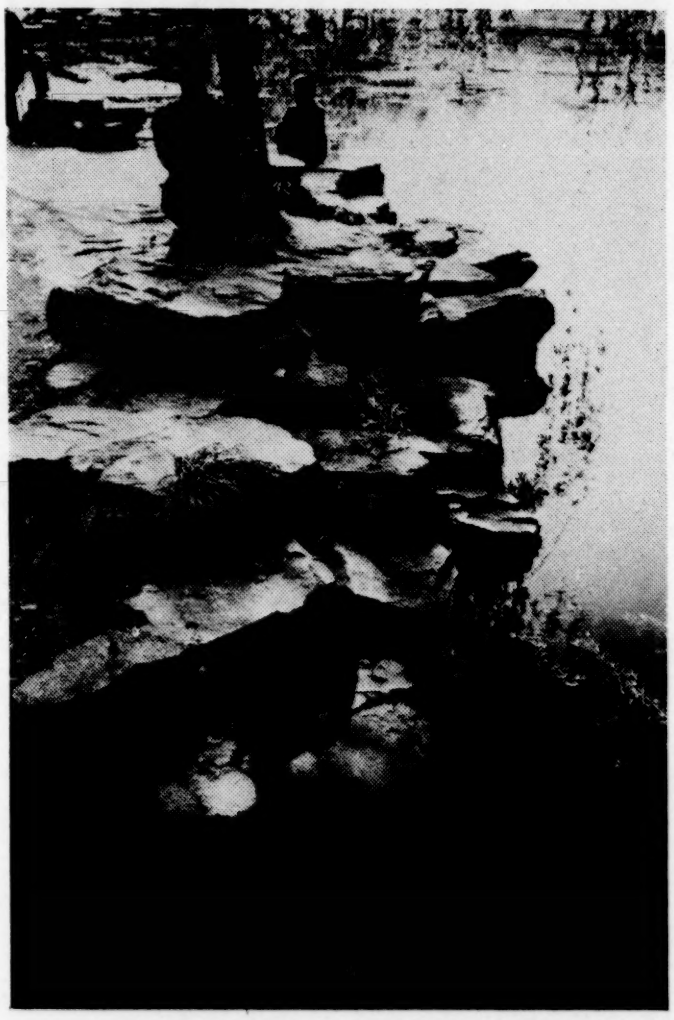
My own individuality is positional and is defined by my relative place in the matrix. I am most myself when I am in the proper relationship to the rest of the matrix, i.e., when I am subject to its influence and can respond with the unique qualities of my particular position. My own nature is spontaneous, not in the sense that I do something erratic, but in the sense that I do something uniquely appropriate from my position in the matrix. No two parts of the web are identical and the harmony of the world consists of each thing manifesting its unique position which is a reflection of, and helps to determine, the reflection of everything else. Thus behavior is both a determin-

ation of nature and a reflection of nature, and shows harmony when my nature is clearly manifested and disharmony when it is obscured. Harmony is disrupted when I either misconstrue my nature by following some self-conceived general image, as for example when I try to behave like someone else or follow purely abstract principles of behavior, or when out of selfishness or self-concern I place myself in a special or privileged position with respect to the matrix.

When I act according to my particular nature which cannot be isolated from the matrix of other things, my behavior is "correct." It has a psychological dimension in the sense that I achieve an inner harmony and joy; it is also a beautiful act, as it produces a contextual harmony and it also induces other things to act in accordance with their own natures. Harmony is not something that can be achieved by one in isolation, it requires a general participation, a cooperation.

A Chinese garden, then, is a place of harmony in this very special sense. It was usually a place to live in and not merely a place to visit. All the forces of nature were represented in the garden, including the various powerful manifestations of *Yin* and *Yang* and *Ch'i*, or life force. These were harmonized by the gardener in such a way that one good garden in the neighborhood was thought to increase the natural and human well-being of the whole district. The presence of a good garden was like the presence of a sage; even unseen the crops would grow better, there would be less contention, and the children would be born without defect. The garden was a deeply therapeutic place and was meant to restore in its dwellers or visitors a sense of their own wholeness. Those who had followed their paths through what the Taoists called the "dusty world" and had become self-enclosed and "dusty mirrors" could learn to manifest their natures clearly once more to reflect the web in which they dwelt.

XI HU
HANGZHOU



The key to the effect of the Chinese garden was to display the individual aspects of its contents in such a way that one's sensitivity to uniqueness, and thus one's own unique nature, would be amplified. The rationalizing and generalizing aspect of the intellect had little to find to encourage it and much to frustrate it, for the rational mind proceeded by making everything the same and ignoring differences. Thus the walls surrounding the garden curved and followed the landscape carefully, there were no straight paths and no place to stand to see the garden in its total aspect. Every window had a different shape and the doors were seldom uniform. One traversed the garden and discovered each of its parts in surprised succession. Many landscape paintings were unfolded slowly from long scrolls for the same purpose, so one could explore the painting slowly as if walking through a landscape and discovering its contents without preconceived expectations. There were often parts of the garden that were impenetrable and represented those parts of nature that could not be grasped by the rational mind.

Streams were always present to represent one of the important forces of nature, and if water was not easily at hand a dry stream

of pebbles was used. One crossed the stream on stones placed at sharp angles to each other, zig-zag wooden bridges, or high-arched bridges that would require a person to see the contents of the garden from different angles and frustrate too rational or too purposive a transit. The plants and stones of the garden were chosen for their uniqueness, and whatever eccentricity the plants manifested was encouraged. Pavilions of various kinds were built in the larger gardens to encourage sensivity to different aspects of nature. There might be, for example, a "Pavilion for the Contemplation of the Moon," a place where the moon could be reflected in a pond or a place where special bamboo was grown to cast moon shadows, a "Pavilion for Welcoming Perfumes," where special scented plants grew, a "Pavilion for Welcoming Spring," a "Grotto of the Secret Clouds," a "Hall of Sweet Dew," and a "Hall of the Lapping Waves."

LIA YUAN
SUZHOU

In the garden, nature was intensified so that even the most self-enclosed person would be encouraged to open and experience that root of spontaneity, of undirected unfoldment that lay at the heart of things. The intellect may tell us that everything is possible and thus our behavior may become bizarre and unrelated to the rest of the world, but a deepened awareness of the matrix in which we are embedded makes us realize that the nature of our own selves is grounded in the countless relationships to which we are subject. "Correct behavior" for the Chinese is that which is proper and fitting, it is behavior that is co-constitutive, that establishes one's own well-being as well as that of others or of what we call the world of nature. The natural world was seen as an object of reciprocity and would return in kind whatever fruits our behavior towards it might produce. There are many non-Western cultures that affected an attitude of respect for nature that was similar to that of the Chinese, but they often personified natural forces in such a way that their respectful and minimalistic actions were based on fears of possible retribution for violating certain taboos or transgressing clearly marked boundaries of supernatural hegemony. The Chinese, in general, did not anthropomorphize nature but treated it with the same respect that some contemporary psychologists treat the realm of the unconscious in personality psychology. Indeed, we might say — accepting for the moment the language of such psychologists — that the natural was a metaphor for the unconscious and was clearly seen as an expression of the deepest forces that permeate our own psyches. The inner and outer form a continuum in which nature and self-nature reflect each other.

The garden bridged the two extremes of the underly-human and the overly-human. A tree outside the garden would be left to follow its own nature without any obvious relationship to the human world, while a tree which was strongly manipulated by what we might call an overly-rationalist gardener might become a passive receptor of whatever geometrical fetishes the gardener might possess. Witness, for example, the Western art of topiary. In a proper garden the nature of both gardener and tree accommodate each other and are different than they would be in relative isolation. The

gardener orchestrated the meeting of human and natural in an obvious way that could bring pleasure to visitors, but the pleasure increased a sensitivity to nature which extended beyond the confines of the garden. The limits of the Chinese garden were achieved by some Taoist monasteries in which the garden differed so little from the wilderness that the insensitive visitor would pass through it without realizing its existence. The same harmony dramatically induced in the garden existed outside the garden, and the hope was that in finding it in one place, visitors would carry it with them and find it elsewhere. Viewing the garden was like being made to look at nature through a specially constructed picture frame so that a certain sensitivity could be learned, and then removing the frame so that the same thing could be seen everywhere without the help of the frame.

LAN PU
GUANGZHOU

The Chinese did not have what we might call an "ethics of the environment." They did not attribute rights to humans, let alone to trees, nor did they define a special realm of values or duties to objects of nature. This is a concern we must have because our progenitors have left the innocence of that first garden in a way that the Chinese have not. We have excluded the surround-world from our sense of self-identity, which allows us to see ourselves as separate from and superior to its manifestations. We have suffered from this, or at least some of us have. Those of us who have come to realize that our identities and well-being are dependent upon discovering a "correct behavior" towards nature may sympathize with the Chinese view, but will not be able to imitate it. Once we have left the garden en masse we find that we have trampled down the possible paths of return. Nor, I'm afraid, will it be possible to "deduce" ourselves back by various principles or systems of ethics, no matter how lofty, though some of us may do so individually. We live in a pluralistic society that contains many different values and concerns, none of which can hope to win out completely over the others. But many of us have developed a special yearning for the self-so if only because we have become so embedded in the made-so, and our search for our own broken wholeness has made us search out paths long forgotten and led us to believe that something like the Chinese view of human nature must be true. We have also learned in stark pragmatic terms that we are living in a smaller and more interconnected world than we might have imagined. The idea of wilderness has become a metaphor for that other metaphor of the self-so, the garden. Many of us find that we need to have a place where nature can be itself so that on some fundamental level we can also be ourselves. We interpret this need and care in a way that the Chinese would not have, but our setting is different from theirs. If we find important healing in wilderness and its preservation we must recommend it to others, but the "correct behavior" which we may sense and try to spell out in terms of ethical or moral principles cannot easily convert those whose sense of self is constituted differently. Here the best we can do is to present our arguments in pragmatic terms. The Chinese were lucky enough to have been right without the need for pragmatic demonstrations. ■

27 GATE FIVE ROAD SAUSALITO CA 94965

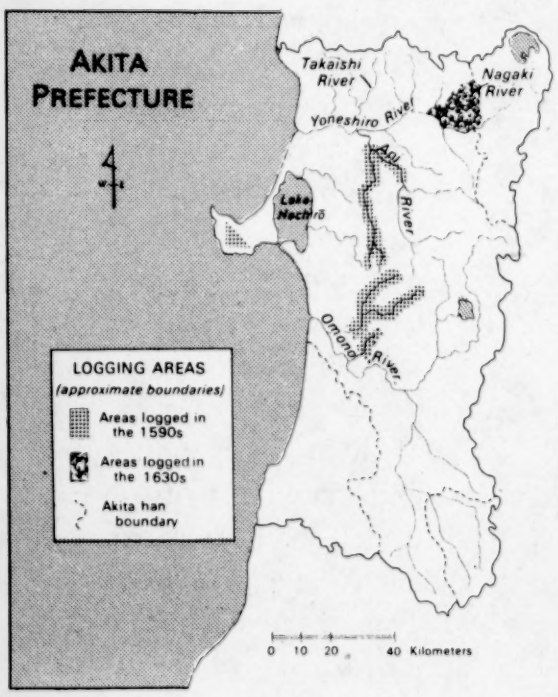
The Origins of Japan's Modern Forests

RICHARD NILSEN: This short scholarly paper is an easy and enjoyable read, and would make ideal bedtime material for anyone who has spent a day being frustrated by a timber company or the U.S. Forest Service. Long ago, in a prefecture far, far away . . . there was a beautiful forest of giant sugi, *Japanese Cedar* (Cryptomeria japonica), *the major timber species of the Japanese islands. That forest stands today as a national treasure, but during the 400 years of its history recounted here, it endured intense exploitation — over-cutting, erosion, drought, and finally reforestation.*

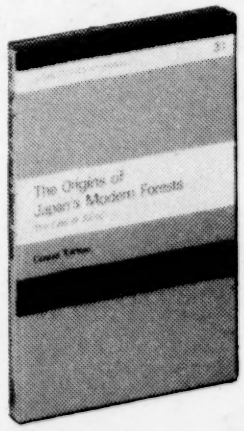
Through this story the Japanese emerge as a people forced to practice conservation by the limited resource base of their island nation. They are also possibly the best (or worst) bureaucrats in the world (for one thing, they left the paper trail that made the telling of this story possible). The institutions that managed and mismanaged this forest make the U.S. Forest Service look like it is run by the Libertarian Party in comparison.

The moral here for contemporary tree lovers is not that things could be worse, but that in this case things were much worse, including a famine that wiped out a third of the people. Yet the situation was turned around and the forest survived. This historical perspective can help us.

[Suggested by Kevin Shea]



The Origins of Japan's Modern Forests
Conrad Totman
1985; 101 pp.
$8 postpaid from:
University of Hawaii Press
2840 Kolowalu Street
Honolulu, HI 96822
or Whole Earth Access



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Sometimes the members of a village would plant as a unit, whether on village communal land *(iriaichi)* or on *han* land they afforested on a sharing basis. Most projects on village land were modest, just a few hectares apiece, because the plots available were small.

Country samurai or wealthy villagers, usually village officials or resident merchants, initiated much of the planting that was undertaken locally. Such people generally had the requisite wealth, the influence, sometimes the land to plant on, and perhaps businesses that would profit from the forest crop. The planting was done in various places, but comparatively infrequently in the inner mountain areas that the *han* controlled. Most commonly local planting was done around homesteads, near cultivated fields, along roads and rivers, on peasant land in shallow valleys, or in and around villages. In general villagers would request to plant in nearby lord's forest only if they lacked other areas.

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By the nineteenth century Akita had an elaborate system of forest management. Its major objectives were to obtain income for the treasury, assure necessary wood for the rulers at prices they could afford, and enable the peasants to continue living productive and peaceable lives. Protection and management of the forests were means to those ends.

Awareness of the infrangible links between forests, farmland, village vitality, and government finances was evident in the opening statement of the revised forest regulations of 1805.

> By special order of the daimyo, the forest system throughout the domain has been reformed and officials under the magistrates of finance are hereby notified. As has been mentioned previously, the denuding of forests ravages paddies and dry fields and causes villages to wither away. Moreover it intensifies extremes in river flow from fierce flooding to conditions of summer drought [which disrupts irrigation and destroys crops]. To revive denuded forests and to control sharp fluctuations in the prices of lumber, firewood, and charcoal is not a trivial task.

Forest Planning

RICHARD NILSEN: Managing resources in the big woods is a game largely with two players: big business (timber industry) and big bureaucracy (U.S. Forest Service). Enter ***Forest Planning****, "an open forum among conservation groups, agencies, industry, and concerned citizens." Public forest management is in a whole new era since the advent of legislatively mandated public participation in the governmental planning process. To play you have to be informed, and probably organized as well. The best place to learn the issues, understand the dollar signs that lurk among the trees, and keep up with the news is here.*

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The Mission Symposium went very well, thank you. There was only one major problem: almost no one from the timber industry showed up. The Forest Service was interested. The industry, however, was paranoid. After all, the industry has been fighting for its own survival. It was suffering from the worst recession in 50 years, it had lost some major battles over Wilderness, and was compromising right and left to get timber contract relief passed Congress. Now was a time for licking wounds and recuperating, not going out to do battle again.

But I'm sorry they were not there. *Forest Planning* still has some industry subscribers, but it used to have many more. Now we are writing to an environmental audience, telling them things they want to hear.

At the same time, industry journalists are telling their audience things they want to hear. As long as we talk to ourselves like this, the situation will get worse.

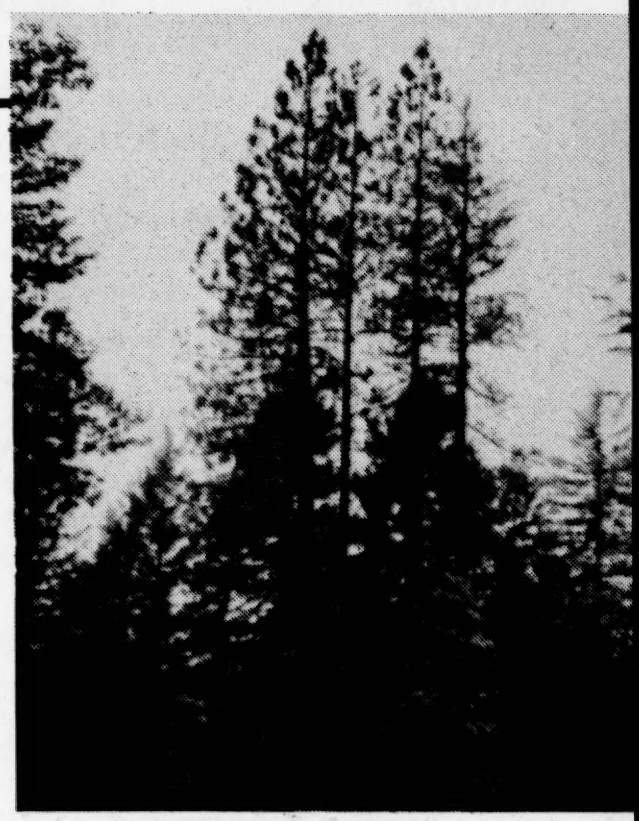
Forest Planning
(The Citizens' Forestry Magazine)
Diane Weaver, Editor
$15/year
(11 issues) from:
CHEC
P.O. Box 3479
Eugene, OR 97403

The Forest Farmer's Handbook

ERNEST CALLENBACH: Anybody who deals with forestland, from woodlot size on up, should have this book. Orville Camp lives on 160 acres of Rogue River Valley timberland in Oregon. When he took it over in 1967, it had been devastated by conventional loggers. Now it's a showplace and Orville — a big, burly, hearty man — is becoming a sort of folk hero, a David to Goliaths like Georgia-Pacific and Weyerhauser. He's been making a living from his forest by observant, thoughtful, and responsible management — which, tragically, has little to do with the kind taught in our forestry schools or practiced by lumber corporations — and this modest, no-nonsense book tells how to do it.

Camp's system of sustainable management based on natural processes requires attention, persistence, and hard work. (Non-damaging access roads, a key element, take both thought and proper equipment.) It's the opposite of the usual cut-and-run-and-spray system, and it can give permanently productive forests, control erosion, promote fisheries, minimize fire, avoid chemicals, and provide a decent place to live. In a time when the Reagan administration has abandoned even a pretense of sustained-yield practices, Camp's book is a practical, detailed antidote to irresponsible short-term-profit forestry. It should instantly become the bible for independent or medium-sized operators who want to do it right, and a secret manual for people in the Forest Service or timber corporations who want to do good stewardship if they get the chance.

The Forest Farmer's Handbook
(A Guide to Natural Selection Forest Management)
Orville Camp
1984; 72 pp.
$6.95
postpaid from:
Sky River Press
236 East Main Street
Ashland, OR 97520
or Whole Earth Access



Natural selection in action. Of the four trees in the center of the photograph, the tree on the left and the third from the left have been selected by nature to be dominants. The other two have been selected for eventual removal and can be harvested to serve our needs.

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Because the climate controls which species of plants can live in the forest layers, the single most important — and most controllable — factor to consider when harvesting is the climate established within each of the forest layers. You can determine with a fair degree of accuracy what the climate requirement is for each plant by imagining what it would feel like to you if you were to be where it normally grows during extremes in summer and winter weather. Observe sunlight, temperature, wind, and the availability of water. Visualize, within each forest layer, what the temperature would feel like to you, how moist the soil and air would be, how much of the sun's rays would strike you, how much wind would hit you, and the temperature of the soil. Then decide whether your proposed harvesting action will alter the climate favorably or unfavorably.

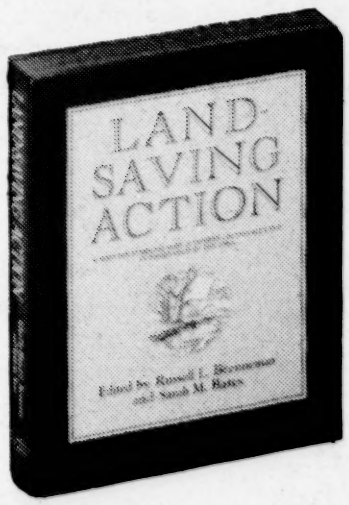
Land-Saving Action

RICHARD NILSEN: Private-sector preservation of open-space lands is no longer solely an activity of big conservation organizations like The Nature Conservancy. During the last ten years, the techniques have proliferated far and wide. Rural Republicans are doing it with their croplands; urban ghetto dwellers are doing it with rubble-strewn vacant lots; creature lovers of all kinds are protecting specific wildlife habitats. The groups tend to be small, volunteer, community oriented, and with very specific tasks in mind. This book, with chapters by 29 different experts, embodies the experience that ten years of saving land has produced, and will serve as a bible for anyone who loves a piece of land enough to want to find out how to save it.

•

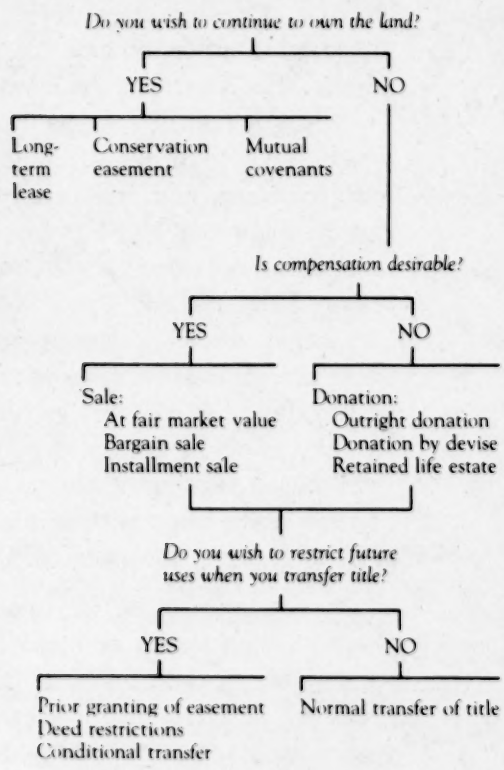
The land trust's legal existence begins when the incorporation papers are filed with the secretary of state. Shortly after, several other documents should be filed, the most important of which is the application for federal tax-exempt status, which is discussed elsewhere in this book. In addition, the trust should file either a registration or an exemption form concerning charitable solicitations and may wish to request exemption from the sales tax.

Most land trusts are actually not trusts at all in the legal sense, but are nonstock corporations organized for charitable purposes. A genuine trust is usually established by an individual transferring property to a trustee and is administered under conditions stated in a trust document. In contrast, the corporate form used by landtrusts allows much greater flexibility in involving interested individuals, obtaining contributions, and managing holdings.



Land-Saving Action
Russell L. Brenneman and Sarah M. Bates, Editors
1984; 262 pp.
$37.45
postpaid from:
Island Press
Star Route 1, Box 38
Covelo, CA 95428
or Whole Earth Access

Options for Protecting Special Land



four pairs

FOR MORE THAN TEN YEARS, I have struggled for a way to express a practical philosophy (perhaps "art" is a better term) for living according to the principles of nature.

The philosophy I seek carries within it patterns for reconstruction, healing, and renewal. Stock design formulas and recipes ignore the uniqueness of every person, place, and thing in creation and diminish our power to respond to them. I've learned rather to seek guidelines, not rules.

While I borrow freely from any appropriate source, I owe a special debt to my friend and teacher, Bill Mollison, whose coined word "permaculture" (*CQ* #29, p. 88) I use to describe much of my own work. Bill's emphasis on human participation in the design process of nature fitted together for me the pieces I was gathering.

Working with these guidelines, I found that the patterns I observed fit within eight principles of design. None of these four pairs is likely to surprise anyone familiar with the wisdom within the various grounded religions and philosophies our species has articulated. Nonetheless we, especially those of us who are North Americans, rather routinely fail to observe them in our daily lives. I find their articulation helpful in evaluating my own lifestyle and seeking to correct my course.

While each of the principles is familiar in sense, if not practice, there is a value in stating them together as part of a whole. That is perhaps the ninth principle: *Everything is part of a whole*. Problems which occur together often have common solutions. Ecologies are efficient and durable when all parts support capture, transformation, and storage of energy by the whole. Each whole is part of a larger whole, to the point where there are galaxies of galaxies of galaxies of galaxies of galaxies of galaxies. Probably the principle continues beyond that level, but at that point human comprehension, even aided with instruments and computers, is exhausted.

There is a sense, then, in which each principle is an aspect of the others. The appearance of the connections between them is a function of our vantage point, where we stand at the moment. Each of these four pairs contains the image of the others.

ECONOMY AND ELEGANCE

1 • **Do only what is necessary.** This involves humility in realizing that our understanding is limited. It means a respect for the natural way in which things happen.

This is what the radical farmer Fukuoka means when he says that his is a "do-nothing" philosophy and why he always questions the reason for every task. "If it ain't broke, don't fix it."

Conservation is always the first resource of "doing nothing." In its simplest terms, it is putting on a sweater instead of turning up the thermostat. As a state of mind, that's a fair beginning. In the deeper application, conservation means honoring the natural cycles, not breaking them apart which results in "waste."

Conservation involves passive *restraint* from change and disruption of natural systems and active *participation* within them.

2 • **Multiply purposes.** Never do anything for only one reason. "Stack functions," is the way Bill Mollison expresses it.

In nature, all design is elegant. My hand is clearly designed for grasping. But it also serves as a heat radiator for my body, a weapon (fist), a signal device, a bodily support surface (as in pushups), a sensory organ, a carrier of affection (caresses), and an implement of communication (fingers in sand).

If we perceive several functions of an object of decision, then many more will be present. If we perceive only one function, then fear, greed, or our egos are in the way.

BALANCE

3 • **Be redundant.** "Repeat functions," Bill would say. "Don't put all your eggs in one basket" is how my grandmother put it. Look at any nutrient cycle or watershed. There is always a variety of pathways by which an ecosystem can proceed about its business. In nature, this is done so that each organism occupies a unique niche in an ecosystem; yet if any one species is removed, everything it does for the whole will be accomplished by other organisms.

A system's capacity for storage and resilience stems from its redundancy. It is the understanding of this principle, for example, that reveals that growing our food in monocultures, where everything hinges on the success of one species, is stupid and self-destructive.

4 • **Check your scale.** Design and act within an appropriate size frame. Or, as Granny said, "Don't bite off more than you can chew."

This is why permaculture starts at the backyard and works out . . . to keep on a scale commensurate with our understanding. We are only responsible for the next step in whatever we are doing, and that step is always right before us, within our reach.

Issues of scale are tricky and require continuous attention to the consequences of a chosen scale. Small may be beautiful, but smallest is not

eight principles for designing natural systems

by Dan Hemenway

always optimal. Some things can be done well only on a large scale (e.g., manufacture of photographic film), whereas others rapidly deteriorate with increasing scale (e.g., food preparation). The only cultural tools our society provides for evaluating scale are economic; these often lead to the selection of scales that are counterproductive, inefficient, and destructive.

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5 RESILIENCE

• **Work with edges.** That is where the action is. Straight lines have far less edge than waves. You know this instinctively. People gravitate to the edges, like the beach, the forest edge, the side of the path, or the living room wall (where we put our furniture). Nature amplifies edges, as in your lungs or kidneys, when it wants to amplify energy transfer; it reduces surface edges, as in a dewdrop or a turtle shell, when it wants to limit transactions. There appears to be no limit to the extent that knowledge and awareness of edge effects can improve on a design. Study of edges in nature will improve our understanding and ability to use this principle.

6

• **Encourage diversity.** Diversity here is intended to be diversity of relations between things, and not just a bunch of different structures assembled. A garden with an assortment of different plants randomly arranged will not be nearly as productive as one in which the plants are arranged as co-productive companions.

Designed diversity is a concept I find difficult to discuss separately from its intimate relationship to redundancy and edge effects. Diversity of pathways *is* redundancy. Diversity design allows both stacking and repeating of function.

---

7 RECIPROCITY

• **Look both ways before crossing.** Everything works both ways. If the bank gives you 30 years to pay for your home, you give the system (the bank) 30 years of your life in indentured servitude. If energy can come in a window, it can fly out a window. If it takes a lot of heat and time to warm a mass, it can give off heat for a long time. Death of individual cells is necessary for the life of other cells. What goes up must come down. Got it?

8

• **The gift must always move.** This is the universal law of gifts. To survive and be well and joyous, we must transform and give away all gifts which come to us. This is how species of an ecosystem coexist. I accept the gift of oxygen from the trees and other plants and return it as carbon dioxide. We violate this principle when we accept food from the earth and do not return our urine and feces, but instead use it to contaminate water. To return a gift without transforming it according to your nature is to reject it — it is an affront to the love of the universe.

Dan Hemenway is editor of The International Permaculture Seed Yearbook, *an ongoing exploration of sustainable agricultural practices (*$*10 postpaid from Dan at P.O. Box 202, Orange, MA 01364).*

—Kevin Kelly

A system which thinks in terms of creating scarcity by withholding the gifts that must always move and destroying genuine abundance, of "cornering the market," holding monopolies, manipulating "supply and demand," is not merely an enemy of the people. It is an enemy of life itself.

To me, the best way to respond to such a system is to withdraw my energy from it insofar as possible (one step at a time). That's just the conservation principle, avoiding actions which are unnecessary. However, conservation goes further, and restores broken cycles. That is our real work: to design many pathways for this renewal, based on a design that connects us in our diversity of resource and perspective. ■

27 GATE FIVE ROAD SAUSALITO CA 94965

Restorative pruning, step-by-step.

YEAR 1

Before Pruning

After Pruning

YEARS 2 & 3

Before Pruning

After Pruning

YEAR 4

Before Pruning

After Pruning

Ecological Fruit Production in the North

RICHARD NILSEN: Do you live so high up or so far north that every time you look something up in a gardening book you're right off the edge of the charts? If you are trying to raise fruit, having this book to consult should rank as a minor miracle. It is a self-published gem by two fruit farmers from Quebec who define "the North" as what's above a line running from New York City through St. Louis to Santa Fe, and then up the spine of the Rockies and over to Vancouver. They cover fruit trees and also grapes and berries, and do it with methods entirely organic ("ecological" — no synthetic pesticides or fertilizers). In addition, author Richard learned a technique called Oeschberg pruning as a kid in Switzerland in the 1930s, and he has been using it and teaching it in eastern Canada for the last thirty years. It is also known as restorative pruning when used on mature trees — it apparently works wonders on old standard apples, the kind where you have to take life in hand on the end of a giant ladder whenever you try to pick them. This kind of pruning is about as different as you can get from the open-center or vase shape most pruning books describe, and it is carefully explained and illustrated. If you have older trees, the book is worth having for these two chapters alone.

•

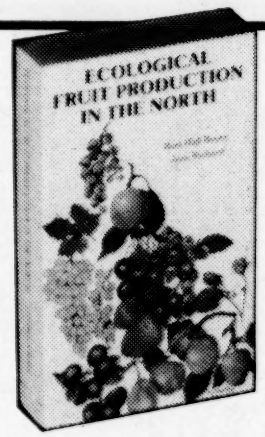
In temperate and boreal climates the ultimate factor controlling a plant's suitability is whether or not it will survive the winters. *Is it hardy?* . . . Far too many northerners, on both sides of the border, have planted trees which having come from milder climate are simply not suitable for their area. . . . Furthermore, it is an infrequent but regular occurrence to have an extraordinarily cold winter which rigorously eliminates all the trees which are marginally hardy in an area. In northeastern North America, the winters of 1904, 1917, 1934, and 1981 were especially cold, and fit into this category of "Test Winters" — winters that test the real hardiness of a tree. In the Northeast, trees which have survived one or more of these onslaughts can be assumed to be fully hardy.

•

In the past, North American commercial apricot production has averaged about 200,000 tonnes annually, but this has declined recently as many of California's best apricot orchards have been razed to make way for the high technology industries of the Silicon Valley. Turkey and the Soviet Union are major world producers of the fruit because the apricot is severely restricted in its ecological adaptation. It likes hot, dry summers with cold, steady winters.

The Soviets have been blessed not only with good apricot climate in the south, but with the most productive apricot breeder in the world. K.F. Kostina developed an incredible collection of wild and domestic apricots at the Nikitsky Botanic Garden in Yalta. In the 1930s she brought together over 600 varieties from seven species to form the Yalta collection, and not content with that, built another one, just as large, in Tashkent. For the next four decades she crossbred and selected seedlings, and was still an active breeder in the late 1970s. Her work has almost certainly produced hardy apricots about which we yet know nothing.

Ecological Fruit Production in the North
Bart Hall-Beyer
and Jean Richard
1983; 287 pp.
$12.25
postpaid from:
Bart Hall-Beyer
R.R. 3, Box 149
Scotstown, Quebec
J0B 3J0 Canada
or Whole Earth Access



Secrets of Plant Propagation

DICK FUGETT: As skills improve, a gardener is naturally attracted to more advanced techniques, and one of the most basic is plant propagation. Besides the challenge there's the dollars to be saved, whether it's propagating kiwis and grapes from cuttings or grafting four varieties of antique apples onto your plain old Jonathan.

Here's a quality book that will go a long way in demystifying such things as division, layering, cuttings, and grafting. It's well illustrated, and the author, who's been practicing the trade since he was a teenager, comes across as a homespun devotee of the art.

If you've ever had the urge to propagate, or you've already tried and there's room for improvement, give this book a read.

•

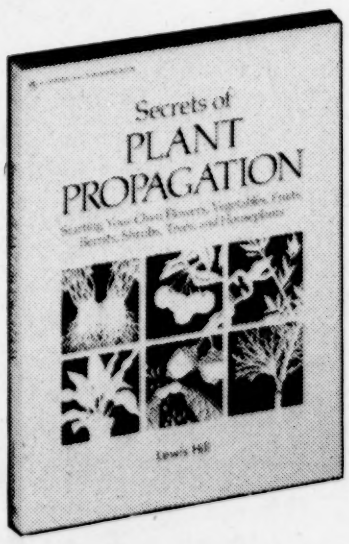
Certain seeds need a moist, chilling period in a dark place before they will sprout. If you were to gather such a seed when it appeared to be ripe, and plant it immediately in a warm greenhouse, it would probably not grow; nor would it germinate readily if it were stored over the winter in a cool, dry closet. These seeds must be placed between layers of moist soil or other material and kept cool in a process called stratification. This stratification softens the seed coat so water can pass through it, permitting the seed to develop into a tiny embryo. As soon as the soil is warmed in the spring, the embryo breaks through the seed coat and forms roots and leaves.

•

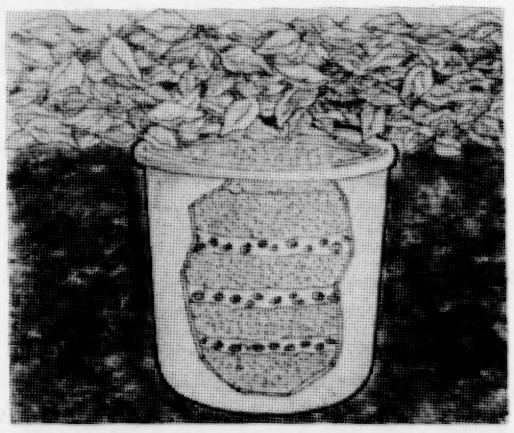
CITRUS (*Citrus*). All of the citrus group can be grafted upon each other, or on closely related species such as kumquat. Orange, grapefruit, lemon, lime, and tangerine trees are usually T-budded on citrus seedlings, although they may also be started from softwood cuttings, leaf cuttings, regular layers, or air layers.

When taking a cutting, cut off the three- to six-inch section with a razor blade or sharp knife, then remove most of the leaves and any flowers or flowering buds. Don't let the cutting dry out before planting it.

Secrets of Plant Propagation
Lewis Hill
1985; 175 pp.
$14.95
postpaid from:
Garden Way
Publishing
Attn: Mail Order
Schoolhouse Road
Pownal, VT 05261
or Whole Earth Access



To stratify seeds, place layers of them between layers of sand in a plastic can, then bury can under leaves.



Alternative Environments Natural Pools

STEVE COHEN: There's a 14-year-old company in Miami that builds natural swimming pools with fresh or salt water that stay clean and clear without chlorine or other harsh and harmful chemicals. They say they're the only ones anywhere doing it.

It took them six years of experimenting to get the right balance of aeration, design, nutrients, and filtration. How is it done? It's similar to an aquarium's under-gravel filter, making these pools more like ponds. Fish and water plants are part of the design and biological filtration process. Pretty rock-sculpted waterfalls aerate the water. Beneficial algae and bacteria are added in just the right amounts to keep fresh water in one of these setups drinkable. As the system ages, the water actually becomes cleaner than its original source. The first pool these guys built 14 years ago is still working.

There's never any expense for chemicals. After construction costs, you can run one of these pools for free. Or there are potential applications in greywater recycling and sewage treatment. And aquaculture does well in these pools, not the murky sea-green soup you usually see in water farming but crystal-clear water.

Alternative Environments can help you with pools, ponds, hot tubs, or larger orders. A recent project is a 400-foot-long, manmade tropical river in the ground floor of a Miami condominium, completely chemical-free. Other large commercial Florida water projects spend $30,000–$40,000 yearly on chemical upkeep alone; these cost

less than that to build ($5000 and up). Comparative cost for this system is zero. And no burnt eyes or lungs, or lifeless water.

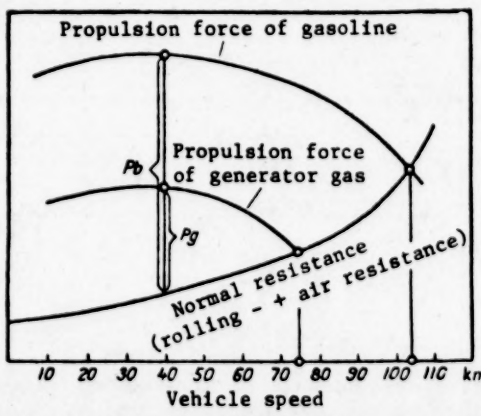
[Suggested by Leif Smith]

Alternative Environments Natural Pools
Information **free** from:

Alternative Environments
12806 Southwest
122nd Avenue
Miami, FL 33257

Gengas

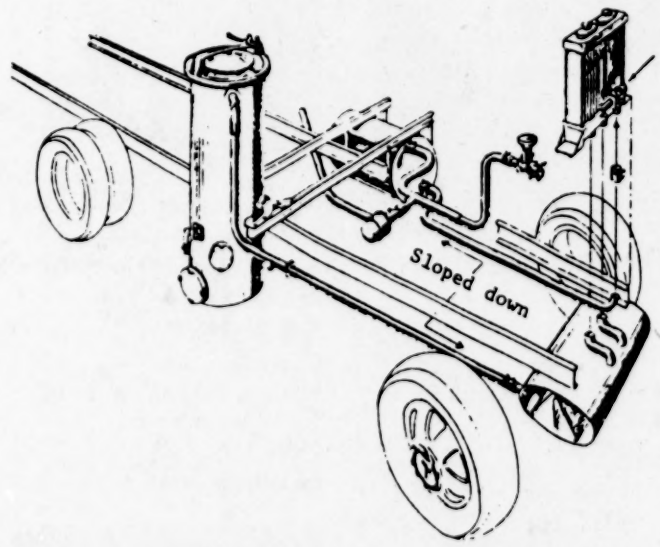
J. BALDWIN: Gengas is what you get when you burn wood in just the right way. The gas can be used to fuel engines whose normal liquid fuel isn't available because of a war, for example. This book is a technochronicle of Swedish Gengas work from about 1939 to 1943. The theory is thoroughly explained, and there are lots of practical examples shown (rather scuzzily in this crudely printed version) of cars, tractors, buses and trucks. Boats too. The information is not sufficient to permit confident do-it-yourself, but if that interests you, this book is Step One because the Swedes took the idea right through to high-volume commercial production. Be warned that Gengas machines aren't all that easy to live with. Unless, of course, there isn't any liquid fuel available . . .


Propulsion force of gasoline
Pb
Propulsion force of generator gas
Pg
Normal resistance (rolling - + air resistance)
10 20 30 40 50 60 70 80 90 100 110 km/h
Vehicle speed

Comparison of the power characteristics of a car during gasoline and generator gas operation. (P_b and P_g are excess power for climbing and acceleration during gasoline operation and generator gas operation, respectively, calculated at the rear wheels and for direct gear.)

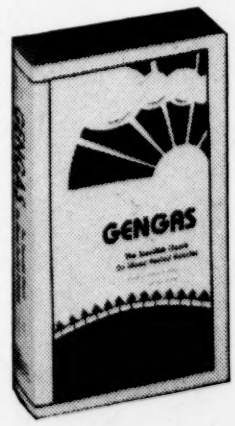
•

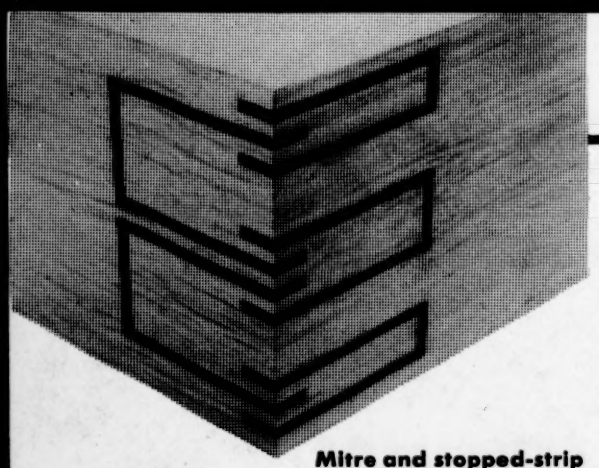
Stationary engines and large truck engines for long distance driving are more suitable for generator gas operation than are the engines of passenger cars or trucks for city traffic. The conversion costs in each individual case are affected by these general conditions. All engines that are to be rebuilt for generator gas operation must be redesigned and modified, in order to increase the engine power and reliability that are decreased by the special properties of the generator gas.



Installation of an Imbert wood gas generator on a truck.

Gengas
Thomas B. Reed and
Dan Jantzen, editors
1982; 335 pp.
$17 postpaid from:
Tipi Workshop Books
P. O. Box 84
Allenspark, CO 80510
or Whole Earth Access

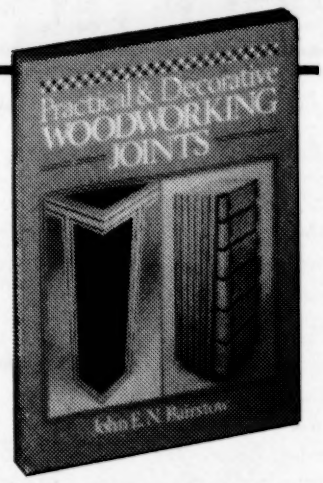




Mitre and stopped-strip inserts with ends joined by inlays.

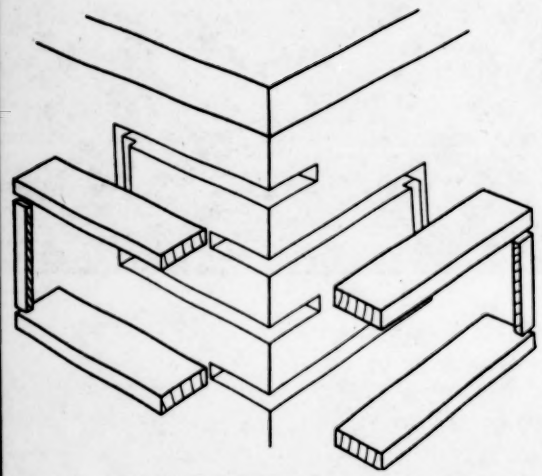
Practical & Decorative Woodworking Joints

J. BALDWIN: Board-and-brick bookshelf builders will marvel that anyone would DO things like this, but more experienced woodbutchers will appreciate the detailed procedures so nicely shown here. (Clever joints can be a satisfying evocation of mastery of the craft.) A wide variety, including some of the mysterious Oriental excesses, are shown step-by-step. Give your next birdhouse some pizazz!

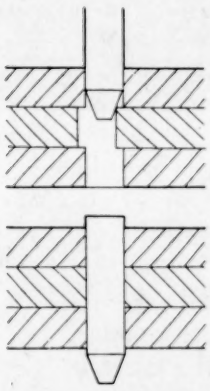


Practical & Decorative Woodworking Joints
John E. N. Bairstow
1985; 119 pp.

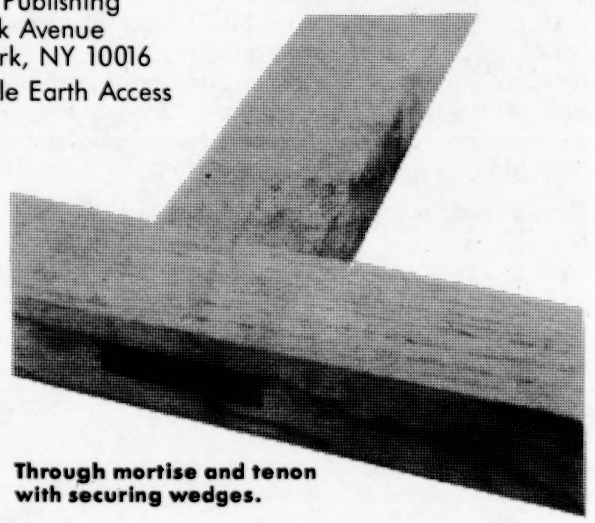
$13.20
postpaid from:
Sterling Publishing
Two Park Avenue
New York, NY 10016
or Whole Earth Access



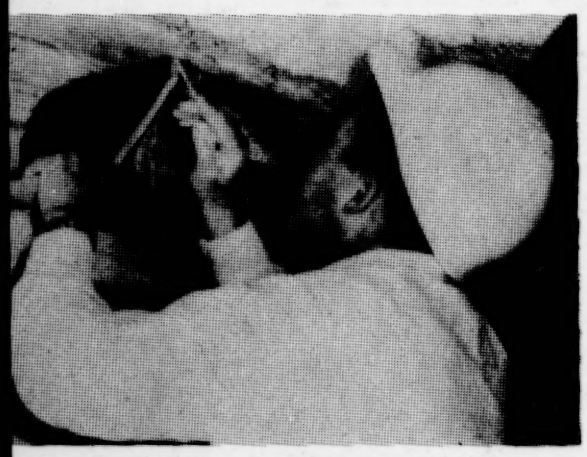
Visual quality is improved by joining up the ends of the strips with a veneer inlay.



A heavily tapered dowel driven through the staggered holes will pull the joint together.

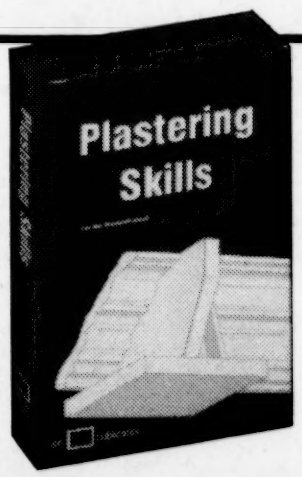


Through mortise and tenon with securing wedges.



Marking the top and bottom lines of a mold to establish cornice strip lines.

Final run of the mold to finish the cornice.



Plastering Skills
F. Van Den Branden
and Thomas L. Hartsell
1953, 1984; 543 pp.

$23.20
postpaid from:
Sterling Publishing
Two Park Avenue
New York, NY 10016
or Whole Earth Access

Paper-backed lath.

Plastering Skills

J. BALDWIN: Say what you will about plaster being old-mode, failure-prone, and subject to ancient rituals of application known only to initiated union contractors; plaster still makes an elegant effect. House-restorers often have no choice — gyp-board just doesn't compare. Plastering is a bit more than the usual do-it-yourself job though, and this thorough book doesn't pretend otherwise. First time (and second or third time) out, you'll probably make a mess. Reading up is a good place to start, anyway. A bonus is that the book discusses and illustrates the less-common aspects of plaster, such as cornices and decorative ceilings. The authors are less trustworthy with respect to safety: not a word about the dangers of asbestos — an ingredient of many plaster formulas of the past. With that caveat, you can consider the subject well covered in typical competent-but-dull, vocational high school style.

TABLE 4-11 GUIDE CHART: PLASTER OVER RADIANT HEAT PIPES APPROXIMATE AVERAGE

PORTLAND CEMENT	DRY LIME	SAND †	WATER*	COAT
100 LBS. (1 PART)	50 LBS. (1 PART)	28 SHOVELS 4 PARTS	13-14 GALS.	SCRATCH AND FILL IN COAT
100 LBS. (1 PART)	50 LBS. (1 PART)	21 SHOVELS 3 PARTS	13-13 1 2 GALS.	BROWN COAT
GAUGING PLASTER	DRY LIME	SILICA SAND	WATER*	COAT
20 LBS.	50 LBS.	10 SHOVELS	7-8 GALS.	FINISH COAT

*U.S. MEASURE † NO. 2 SHOVELS

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Radiant Heating Ceiling Panels

There are two systems for imbedding ceiling radiant heating. One uses special electrical cable secured either to the underside of rocklath, dry wall, or concrete. Another system uses copper hot water pipes varying in sizes from $^3/_8$'' to $^3/_4$'' imbedded in the ceiling plaster. It has been found that the ideal construction for hot water radiant heat is obtained by attaching expanded metal lath to the bottom of ceiling joists, securing copper pipe to the metal lath, and finally applying three base coats of plaster plus a finishing coat.

Airparts

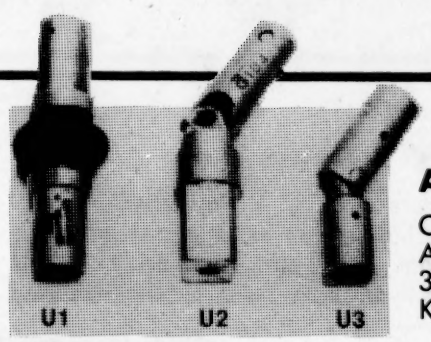
LAWRENCE LILE: Airparts sells parts for airplanes, supplying hobby builders and backyard designers. There are things in their catalog you won't find anywhere this side of the wholesale curtain — aluminum sheeting cut to any length up to hundreds of feet, aluminum tubing and angle, 4130N chrome molybdenum steel tubing and sheets, aircraft shakeproof nuts and bolts, plenty more.

Anyone who wants to build something with the same characteristics as an airplane — light, strong, dependable, immune to vibration, round — should check out this catalog. Bicycle builders will find alloy tubing, car nuts will find aluminum (non-rusting) body metal, boat builders will say "Aha! So that's where you find those whichits!"

The proprietors, Frank and Ethel Ferree, are used to dealing with experimenters, each with a different twist of a problem. Unlike many businesses in the age of impersonal disservice, they give personal service.

•

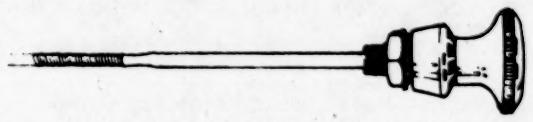
4130 N ROUND AIRCRAFT-CHROME MOLYBDENUM STEEL TUBING MIL-T-6736 NORMALIZED
The stock sizes listed can be furnished in lengths from 1' to 18'. Large orders are filled in random lengths from 10' to 18' unless specific lengths are requested. No charge is made for cutting stock sizes of tubing to mailable lengths on small orders.



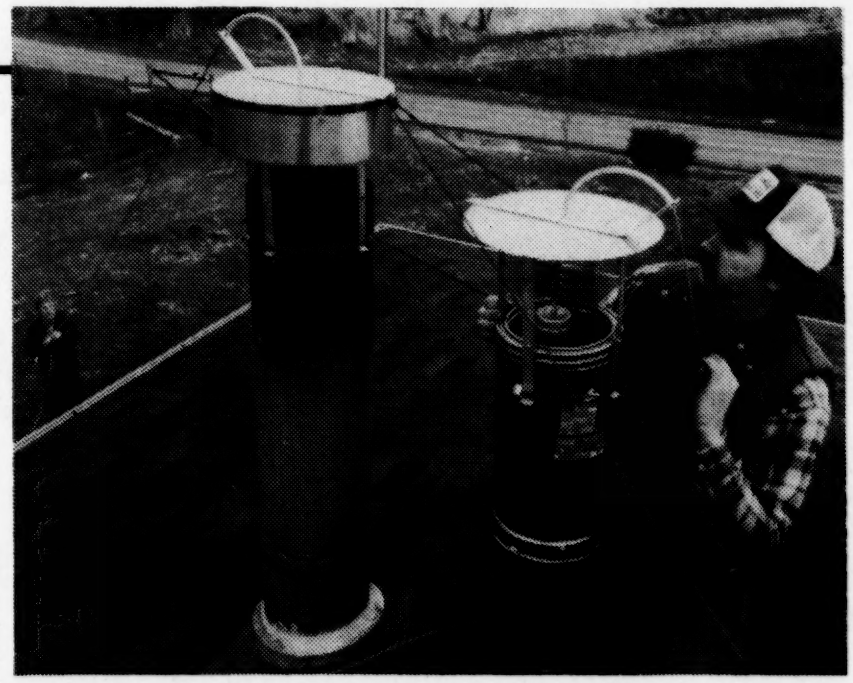
Airparts
Catalog **$1** from:
Airparts
301 North 7th Street
Kansas City, KS 66101

UNIVERSAL JOINTS
U1 ½" round ½" round $14.95
U2 ½" square ½" round $6.95
U3 ½" round ½" round $6.95

White knob push-pull turn to lock with wire end, 48" long $6.95



4130 N CHROME MOLYBDENUM STEEL SHEETS
This is one of the most widely used aircraft steels because of its weldability, ease of fabrication and mild hardenability.



Safe-T-Sweep

J. BALDWIN: Even practice and that spiffy top hat won't help a professional chimney sweep trying to stay on an icy roof. (Chimneys always need sweeping when there's ice on the roof.) You aren't likely to enjoy things up there either. Yet an occasional sweeping is necessary for safety. This rig is permanently installed on your chimney top, where it awaits your further command. Release the cable, from the ground, and the weighted brush drops down the flue, taking the nasty creosote along with it. (Better have the fireplace taped closed first or a Terrible Disaster will ensue.) Haul it up again to the parking position when through. Simple and neat and safe and cheaper in the long run. The device has several competitors. I don't know which is best, but this one looks like a good design, well made of good stuff.

Safe-T-Sweep
$120-$160
Information **free** from:
Marley Products
RR 2, Box 165
Nokomis, IL 62075

Armstrong Washer Specialties

DONALD DYALL: I've found a source of replacement refrigerator door gaskets, thermostats, and everything else to keep the old fridge, range, washer, etc., running; I gave a new paint job, door seal, thermostat, and relay to a 1943 G.E. fridge, and it's ready for another 40 years. How to get a lifetime of service out of your appliances — for the complete idiot.

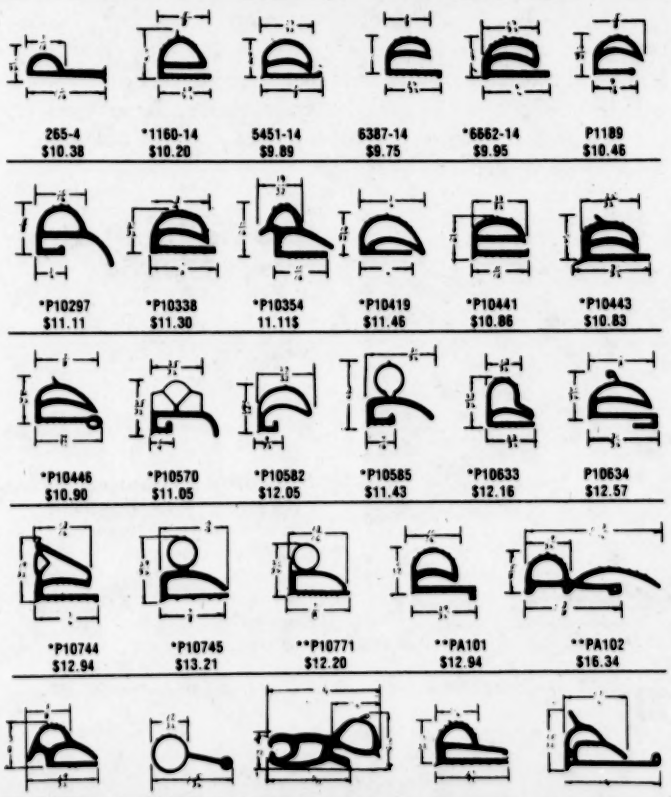
J. BALDWIN: Their catalog shows what's available at one of their many big-city sales warehouses. It's supposedly a wholesale outfit, so be cool (use official-looking stationery).

Armstrong Washer Specialties
Catalog **free** from:
W. D. Armstrong
P. O. Box 906
Willoughby, OH 44094

GAS DRIP PANS

CTR3G
Fits Caloric, Tappan, Magic Chef or Sunray

DOOR GASKETS



Indoor Air Quality and Human Health

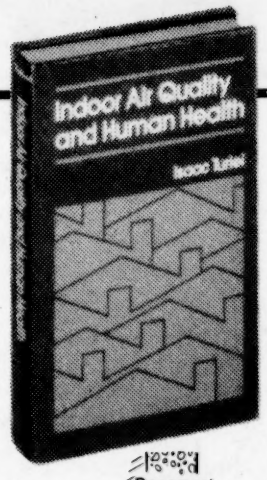
RICHARD NILSEN: Here is a non-technical distillation of what's been learned about indoor air pollution since the late 1970s when airtight energy-efficient measures slowed the renewal rate of fresh air in houses. If you have been following this subject in magazines or technical journals, there won't be much news here; if you haven't been, this is a nicely laid-out introduction to what's been discovered so far (mainly radiation and carcinogens). The mathematical equations are tucked away in one appendix, and there is a glossary and a list of manufacturers for things like heat exchangers and a gadget you leave in your basement that measures problems (if you have any) with radiation from radon gases seeping into your house from the soil.

•

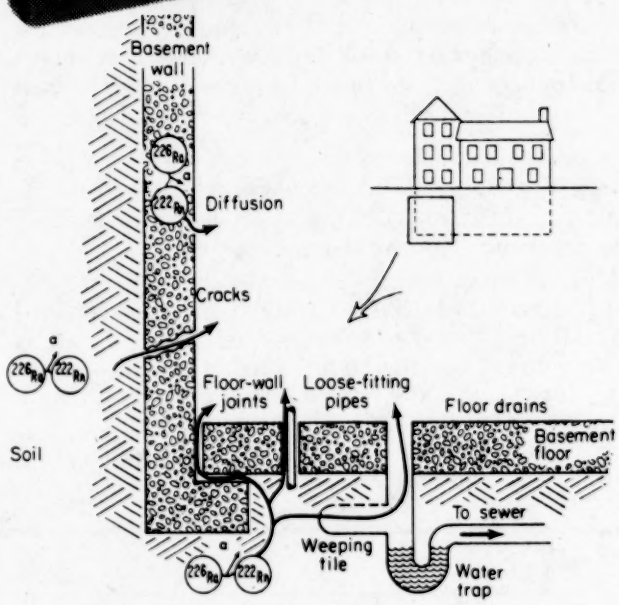
Three contaminants deserve the most intense study: (1) radon, a natural radioactive gas, (2) formaldehyde, a widely used chemical that emanates from many household items, and (3) tobacco smoke.

•

Stone, concrete, and brick emit radon, some more than others. A building's foundation type, by isolating the building from the underlying soil, may influence indoor radon concentrations: vented crawl spaces provide better ventilation than concrete slabs on grade or unvented basements, and thus may allow for more rapid dispersal of radon. Well water tends to have more dissolved radon than water from surface reservoirs. Finally, the ventilation rate is an important influence on the concentration of radon in a residence. All other things being equal, halving the ventilation rate will approximately double the radon concentration.



Indoor Air Quality and Human Health
Isaac Turiel
1985; 187 pp.
$25.95
postpaid from:
Stanford University Press
Stanford, CA 94305



The primary pathways for radon entry into buildings are through openings and cracks in foundations and by diffusion through the foundation walls and basement floor. Source: Lawrence Berkeley Laboratory.

Slip-In-Panels

J. BALDWIN: Those of you that must contend with heating bills have probably already heard that about 40 percent of your heat losses are through door and window leaks. Insulated window covers can help (assuming you have a place to store them when they aren't in use), but they have a problem: they often don't fit the window openings very well. Leaks around the edges can actually make the heat losses worse than they were originally, so it's a serious condition, particularly in old misaligned houses.

The Slip-In-Panel is made by you from a locally obtained piece of foil-faced foam board. What this company sells is a very clever kit of materials with which to fashion a squishy, conforming border that'll seal the panel tightly into just about any window frame, however rough or cattywampus. The kit includes the edging, attaching glue, and even adhesive for assembling leftover foam panel scraps into larger pieces that avoid waste. When covered with the decorative material of your choice, the kit's panels are less than half the price of much of the competition.

Slip-In-Panel Kit
Catalog **free** from:
Aerius Design Group
RFD 1, Box 394B
Kingston, NY 12401

This cutaway photo shows that the key to the Slip-In-Panel design is the wide flexible edge strip. It is made from soft, fire retardant foam and has a vapor barrier laminated into the center.

Superinsulated Building Newsletter

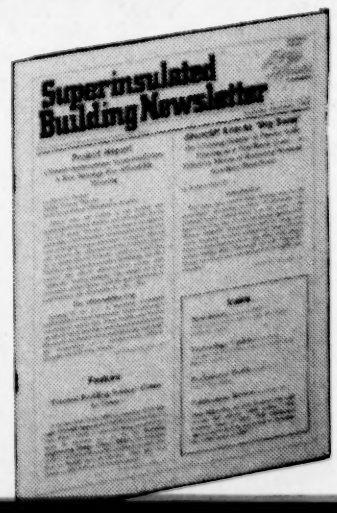
J. BALDWIN: This is where the insulation industry trades experience, shatters myths, and generally has at it. Reaction time between actual building and writing-it-up is less than with many other publications, and I'd expect the reverse to be true as well. As is typical of such newsletters, the editors permit vigorous controversy complete with names named — an effective way to develop true professionalism in a relatively young business enterprise. It's good to see.

•

Prediction
I predict that, by 1987, big-solar will be eclipsed. Although most architects will continue to call for large south windows, their reasons will be daylighting and view. *Not cutting heating bills.* They will recognize that the most cost-effective way of cutting heating bills is to employ superinsulation. As a means of cutting heating bills, big-solar will be inferior to superinsulation, that is, *not cost-effective relative to superinsulation.*

Do I mean that architects will "go 50-50" with big-solar and superinsulation, or "go 25-75"? No. I mean that they will "go 0-100". They will come to understand that no amount of passive solar heating — not 25%, not 10% not 2% — is cost-effective relative to superinsulation.

Superinsulated Building Newsletter
Craig R. Sieben, Editor
$55/year
(12 issues) from:
Superinsulation
Information Service
56 John F. Kennedy St.,
Suite 7
Cambridge, MA 02138



The Microwave Debate

ART KLEINER: Remember those high school civics class diagrams: "How a bill becomes a law"? This book answers the question, "How does a radiation health complaint become a safety standard?" The answer: not reliably enough. Unlike ELF and VLF waves, there are safety standards for microwaves and radio waves — but with suspiciously high acceptable limits. The culprits are bureaucracy, indecision, and vested interests. Stupid reasons to get sick.

Nicholas Steneck meticulously researched 60 years of radiation standard obfuscation in America, without falling into either hysterical panic or naive gullibility. (Sometimes dull writing, though.) Early on, the military dominated arguments over radiation safety (the Air Force persuaded GE and AT&T to relax their safety standards for the sake of avoiding visible disagreement). Later, after the press learned that the Soviets were zapping the American Moscow embassy with microwaves, popular reporters like Jack Anderson and Paul Brodeur locked horns with conservative scientists who, er, didn't want to make waves. The result? We still don't know how much bombardment people can safely take from radar machines, microwave lines, and the like. It's time for a concerted effort to find answers. Anyone contemplating radiation-hazard research (a public service) will need this book for background.

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Soviet researchers began looking at the health of radar workers at about the same time as did U.S. researchers, in the early to mid-1940s. Both discovered that radar workers complained of headaches and other asthenic discomforts. U.S. researchers universally dismissed such symptoms as inconsequential and with few exceptions discontinued surveying worker health. In the United States *hazard* came to mean demonstrable and irreversible physiological harm. The Soviets not only paid attention to subjective asthenic symptoms but made them the focus of detailed health surveys. Soviet standard setters regarded discomfort as a significant enough health effect to be classed as a hazard and used as a basis for setting standards.

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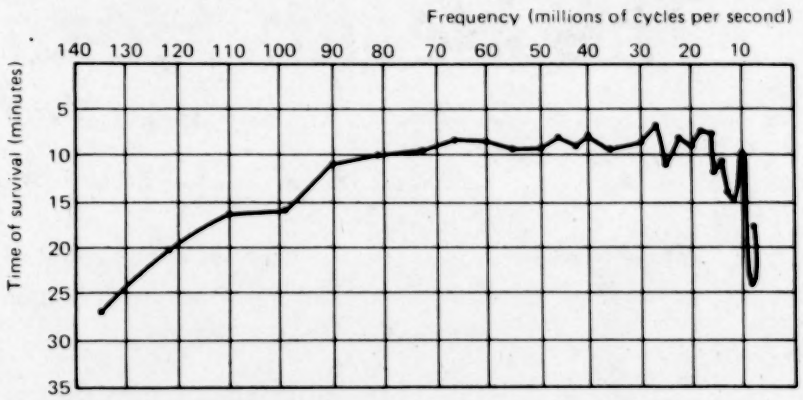
It seems likely that neural function, and therefore behavior, are indeed disturbed by low intensity microwaves. . . . The behavioral studies for the most part leave much to be desired in the way of experimental control and clearly specified qualitative results. Nonetheless, the studies consistently and repeatedly report that human beings do exhibit behavioral disturbances when subjected to low intensity microwaves.

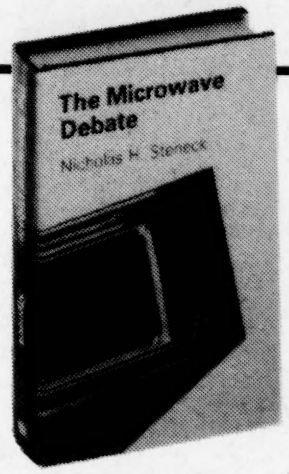
—R.J. MacGregor, Rand Corporation, Santa Monica, California, September 1970

•

The broad outline of Zaret's microwave cataract theory is fairly simple, if somewhat vague. In essence he has repeatedly claimed that long-term, low-level exposure to RF radiation can cause cataracts: The distinguishing feature of a chronic microwave cataract, in comparison to a thermal microwave cataract, is its location in the eye. Thermal microwave cataracts form in the rear of the lens; chronic (athermal) microwave cataracts, according to Zaret, form in the capsule covering the rear of the lens.



Survival times of mice subjected to currents of various frequencies. From J.W. Scheroschewsky, "The Physiological Effects of Currents of Very High Frequency," Public Health Reports No. 41 (September 1926): 1958.



The Microwave Debate
Nicholas H. Steneck
1984; 296 pp.
$26.25
postpaid from:
M.I.T. Press
Attn: Order Department
28 Carleton Street
Cambridge, MS 02142
or Computer Literacy

Terminal Shock

ART KLEINER: Written for clerical workers instead of personal computer users. Author DiMatteo, of the Canadian Council for Occupational Health and Safety, covers every type of VDT radiation and most other health hazards. One extensive chapter describes how to test a VDT for radiation emissions; others summarize legislation and workers' compensation cases. This book is an unabashed political manifesto, but it's clear, well researched, and basically unhysterical. Its information about shielding and other remedies is invaluable.

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The standards (for X-ray exposure) are set on the basis of estimated risks for the development of fatal cancers in individuals exposed to ionizing radiation. . . . This risk estimate was generally derived from the effects noted in Japanese bomb survivors exposed to high levels of ionizing radiation.

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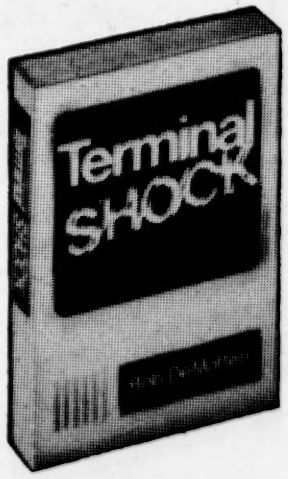
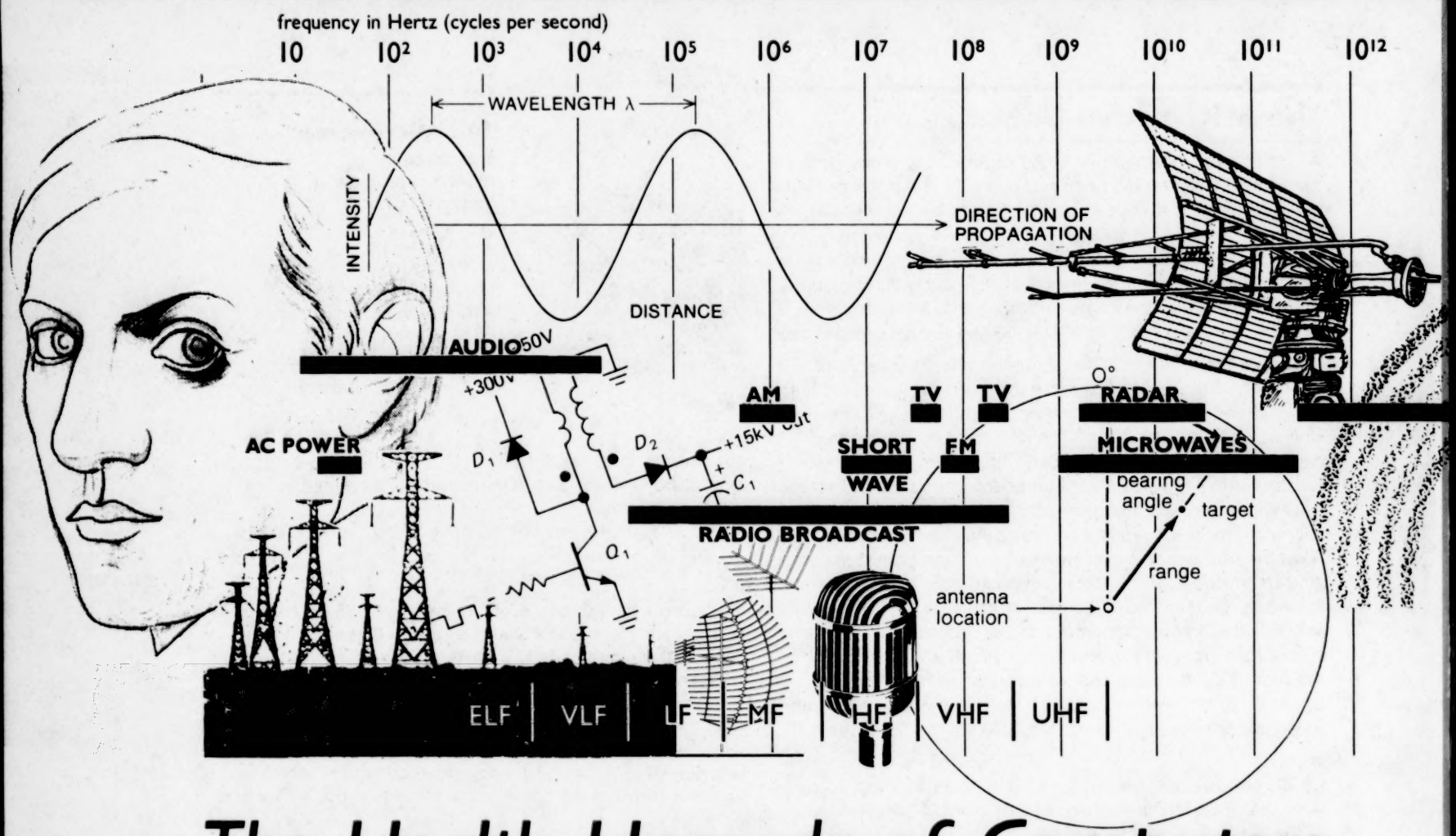
Terminals can be effectively shielded by using a thin cloth which has been permeated with nickel. This cloth will attenuate the electrical fields for ELF, VLF, and higher radio frequencies up to 10 MHz. The cloth has an adhesive backing which can be affixed to all four sides of the cabinet. Since the metalized cloth must be grounded to be effective, a ground wire must be attached to the cloth and connected to any grounding point on the terminal. This metalized shielding cloth, which is imported from Japan by Trade Wind Traders of Santa Cruz, California, was tested by Radiation Environmental Management Systems for radio frequency attenuation effectiveness. The metal fabric was effective in reducing the electric fields to below the detection level of the instruments over the entire range of test frequencies from a fraction of one Hz to MHz. However, the magnetic fields were not attenuated at all by the fabric.



Terminal Shock (The Health Hazards of VDTs)
Robert DiMatteo
1985; 205 pp.
$10.95
postpaid from:
NC Press
31 Portland Street
Toronto, Canada
M5V 2V9
or Computer Literacy



The Health Hazards of Computers

A Guide to Worrying Intelligently

Edited by Art Kleiner

THIS AMALGAMATION OF INFORMATION, conjecture, experiment, and reporting is the end of a 12-month odyssey. It started last June, when we were planning the "Computers as Poison" issue (Fall '84 *WER*).

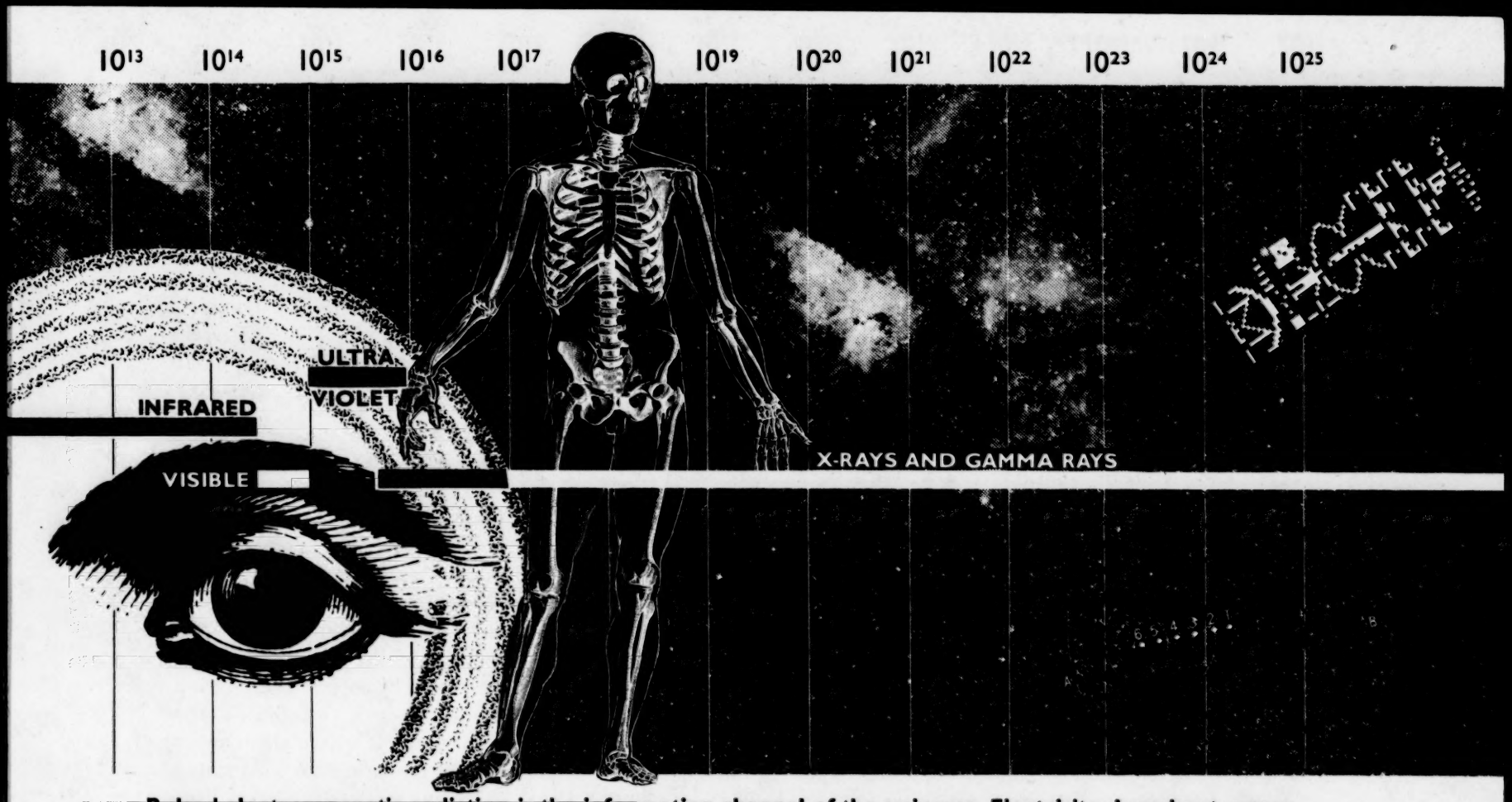
"We really should have something on the health hazards of video-display terminals (VDTs)," I said to Kevin and Stewart. "After all, it's a major uncertainty. You sit with your nose squeezed up against the beast for hours every day; you hear vague reports of cataracts and birth defects; you hear, on the other hand, industry groups saying there's nothing wrong with the machines. . . . Whom should you believe?"

A tip from Mike Castleman of *Medical Self-Care Magazine* led me to the Center for Investigative Reporting in San Francisco. A reporter there named Diana Hembree had already been investigating VDT radiation health hazards for several months, with a particular interest in its effects on women workers — most VDT terminal grunt workers, such as airline reservation clerks and data-entry operators, are women. At my request, she assembled a group of investigators to look into potential radiation hazards from personal computers. Their original article arrived in time for the Computers as Poison issue, but because it reported on a situation that was simultaneously controversial, extremely technical, and inconclusive, we didn't feel comfortable printing the article without scientific review.

Thus we held it and sent it to two dozen physicists, radiologists, biophysicists, and doctors — all people with a preestablished interest in this topic. Diana's original theme wasn't particularly incendiary; it basically said, "There seems to be cause for concern, but nothing conclusive; more research is needed." We got back a dozen replies, some complimentary and others criticizing us for everything from hysterical sensationalism to underplaying the danger. Some of those replies led to further interviews that supplemented Diana's already exhaustive research. Meanwhile, discussion on the EIES computer network began turning up comment from other people who had investigated the issue.

Ultimately, I edited Diana's article, plus some of the replies and other comments, into these 14 pages. We've broken it down by Possible Health Hazard — non-ionizing radiation, glare, X-rays, noise, posture — and added a list of nagging questions and an analysis of potential remedies. It may not be conclusive, but I feel it will give you as complete a picture of your choices as is possible now. And it's more newsworthy than it was last June, because several things have happened since then:

First, the academic/scientific establishment, which seemed firmly opposed last year to the idea that VDTs could be



Pulsed electromagnetic radiation is the information channel of the universe. Electricity, broadcast waves, telecommunications, X-rays, microwaves, and visible light — all travel as waves or pulses of energy, moving at the speed of light.

This chart of the electromagnetic spectrum shows the overall range of electromagnetic frequencies. In order to fit the spectrum into a reasonable space, the horizontal scale is logarithmic — each marker represents a frequency ten times greater than the marker to its left.

illustrations by Don Ryan

producing harmful electromagnetic radiation, is admitting more doubt this year. This is partly due to some recent experiments on the biological effects of low-frequency radiation, reported herein.

Second, thanks largely to the persistence of labor unions concerned about VDT workers, there are some beginning attempts to measure low-frequency radiation from specific computer terminals and cross-check those measurements against observed biological effects. The pioneer in this is a doctor named Hari Sharma at the University of Waterloo in Ontario, who is — to our knowledge — the only doctor so far to do the obvious: to investigate a particular complaint of health problems among VDT workers and test the machines they work on for low-frequency radiation. His results are the first to suggest that different computer brands will produce radiation with different biological effects.

Third, two of the scientists who responded to Diana's article — a physicist named Elizabeth Rauscher and her partner, an electronics engineer named William Von Bise — have begun to take on the daunting task of measuring radiation from various brands of personal computers and comparing them to each other. In February, they spent a day at Whole Earth's offices, measuring five different brands of computer under a variety of conditions. Though their research is far from conclusive — Whole Earth offices, for instance, bear no resemblance to a laboratory — they came up with some intriguing preliminary interpretations.

Finally, a variety of radiation, glare, and static-electricity filtering shields have proliferated in the last year, designed to filter out a variety of different types of radiation. We asked Mike Skaar, who evaluates and sells screen filters professionally, to help us get a sense of what's available and how they compare to each other.

Unfortunately, some of the screen-filter companies are now using scare-tactic salesmanship that seems as suspect as the protests by computer manufacturers that the terminals are completely safe. "I got a call last week from a PR woman in Chicago," *Time* magazine computer editor Philip Elmer-Dewitt told us this spring, "pushing a company that sold glare-and-radiation-proof screens to stick on the front of your terminal. To buttress her pitch, she cited a *Chicago Trib* article that 'linked' time at a terminal with 'increased risk of miscarriage.' She's not only yelling fire in the maternity ward, she's probably covering up the wrong end of the CRT tube. Pinning this down once and for all would do an invaluable service to everyone. Why is it so hard to get to the facts?"

Because, Phil, the research is disparate, inconclusive, and contradictory. Many of the researchers have vested interests of one sort or another. Herewith, our best shot at cutting through the murk — with hopefully not too much oversimplification. The authors and interviewees wrote this material independently of each other; the responsibility for editing it all together is mine. ►

The core of the controversy

LOUIS JAFFE (proprietor of Chariot computer network, member of the Society for Information Display): Take any ordinary AM radio, turn up the volume, and hold the antenna near your computer. The noise emissions it picks up from the computer are usually loud enough to drown out local broadcast stations.

Tune the radio to different frequencies and move it close to different components of the computer. Also make the computer do various things: disk accesses, typing, various screen displays, print-outs. You will find that the screen, keyboard, system unit, disk drive, and printer all make an amazing chorus of chirps, roars, clicks, and whines. Admittedly, you can't use this to measure the particular frequencies the computer produces — but it handily proves there is energy humming around outside a computer or terminal.

DIANA HEMBREE and KERRY NELSON (Center for Investigative Reporting): Virtually all personal computers use video-display terminals (VDTs) to display their text and graphics. These terminals, like TV sets, include a plastic or metal case enclosing a cathode ray tube (CRT), which uses high-voltage currents to fire an electron beam at the video screen. The high-speed electron beam, and the electronic components that gather power for it or aim it, generate a range of electromagnetic fields — including weak X-rays, ultraviolet radiation, infrared light, and radiation of many other frequencies.[1] Although most radiation is absorbed by shielding built into the computer case or the glass screen, scattered reports of cataracts and problem pregnancy "clusters" stirred concern about possible radiation hazards from computer terminals beginning in 1977.

In 1977 two young *New York Times* copy editors using VDTs developed early stages of cataracts — an eye disease that usually affects the elderly. Dr. Milton Zaret, a Scarsdale ophthalmologist who since 1959 has published controversial findings on the effects of microwaves on the human eye, said that the cataracts were caused by exposure to radiation.[2] Government investigators subsequently ruled out VDT emissions as a possible cause; but soon afterwards, early cataract symptoms turned up among several employees at the *Baltimore Sun*. Here again National Institute of Occupational Safety and Health (NIOSH) investigators found "no significant association" between VDT use and premature cataracts. However, NIOSH concluded that "the issue of VDT-associated cataracts is NOT resolved by our study."[3]

The controversy over VDTs and radiation grew more heated during the next five years, as office workers reported separate "clusters" of miscarriages and birth defects at 15 VDT worksites in the U.S., Canada, and Europe. Government investigators at four of these places have excluded VDTs as a possible culprit, and federal health agencies in the U.S. have dismissed the clusters as statistical flukes. However, many VDT operators, reporting eyestrain, blurred vision, headaches, dizziness, back pain, irritability, and stress, are still worried about possible radiation hazards. Experts often trace these effects to assembly-line work pace and to poor VDT or work-station design,[4] but a small but increasingly active group of medical researchers have said that the radiation hazard question is far from answered.

Among this group is Arthur Frank, chair of the Department of Preventive Medicine and Environmental Health at the University of Kentucky at Lexington. Dr. Frank, a well-known researcher on VDTs and human health, finds "a great paucity of scientific information . . . on the possible health effects" of VDTs, now used by an estimated 15 million Americans. Unconvinced that studies of VDTs have given radiation a clean bill of health, Dr. Frank describes the VDT emissions issue as "unsettled."

Not so, say government agencies in the United States and Canada, agencies which often have done their own VDT testing. The U.S. Food and Drug Administration, the American Academy of Ophthalmology, and a blue-ribbon panel of the National Academy of Sciences are among the groups that have evaluated and dismissed the idea of radiation hazards from terminals. Any radiation given off, they argue, falls well within federal guidelines and is too small an amount to pose a threat to health.

"There is absolutely no danger with radiation emissions from VDTs, even for pregnant women," says William Murray, a radiation specialist for the National Institute of Occupational Safety and Health. Some industry officials have taken things a step further by deriding fears about radiation as irrational. Protecting workers from VDT radiation "is like protecting them from light bulbs," Charlotte Le Gates of the Computer and Business Equipment Manufacturers Association (CBEMA) told one reporter. "It's like employees saying, 'the office is filled with cosmic rays and you have to fight them with balloons.' "[5] CBEMA has recently begun a multimillion-dollar media campaign, with TV spots and question-and-answer columns in newspapers, to convince computer users that VDT-emitted radiation is not hazardous.

At the Whole Earth offices, researchers Elizabeth Rauscher and William Von Bise monitor the electrostatic signals from an IBM PC video display terminal with the three-tiered stack of electronic gear on the right.

The electromagnetic spectrum

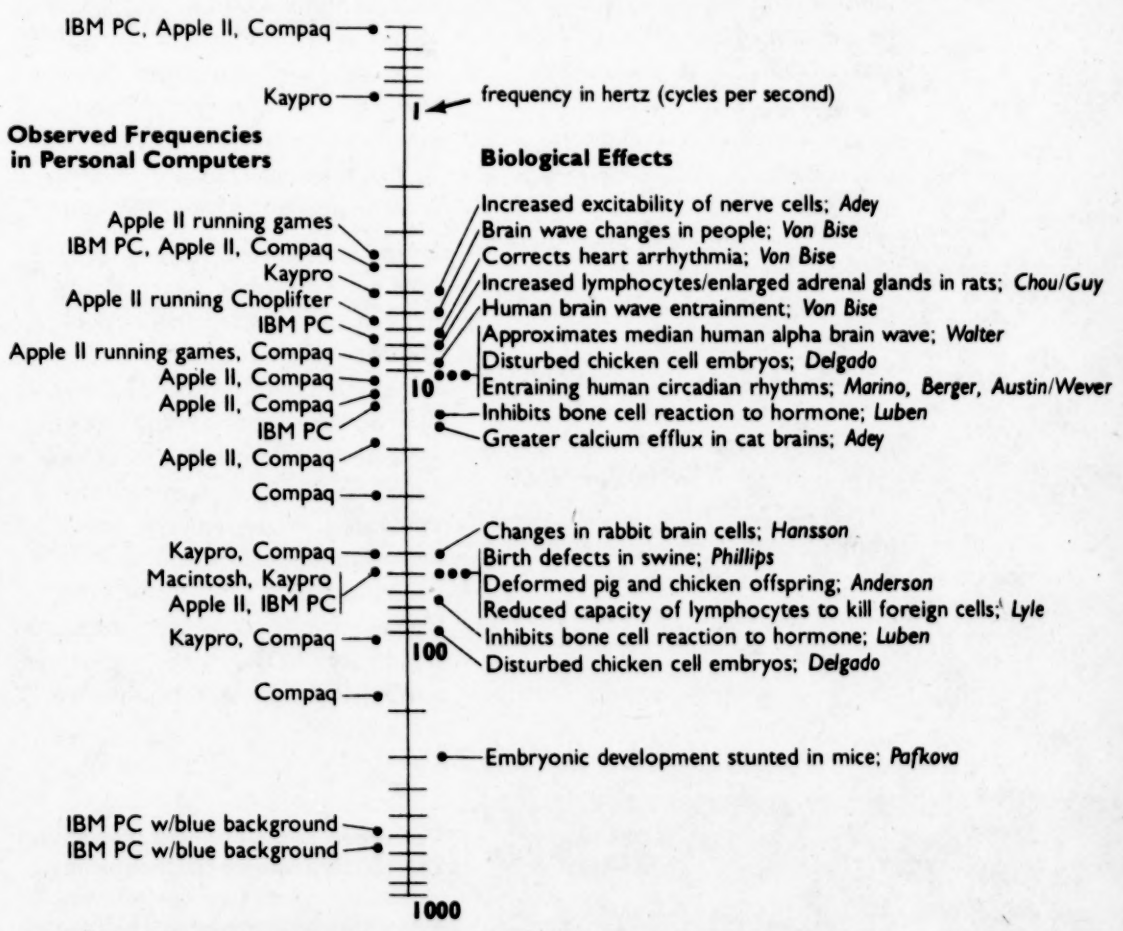
DIANA HEMBREE and KERRY NELSON: In the past few years, a growing number of scientists have tentatively linked low-frequency electromagnetic (EM) radiation to profound biological and genetic changes in test animals.[6]

Scientists have found that electromagnetic fields — regions actively dominated by electromagnetic radiation — may affect organisms at certain specific frequencies, or "power windows," while even slightly lower or higher frequencies have no effect at all. For this reason and others, it is risky to assume that effects found at one frequency will be produced by others as well.

It is also important to note that this research on the biological effects of electromagnetic radiation has not focused on VDT radiation — and that no studies anywhere have conclusively linked radiation from VDTs to health problems. However, as the chart below shows, computer and computer terminal users are exposed to some low-frequency electromagnetic fields similar to those linked to biological effects. These similarities suggest that the question of VDT safety is still open. Unlike X-rays, low-frequency radiation is non-ionizing; it does not alter the atomic or molecular structure of substances through which it passes. Because ionizing radiation has been linked more obviously to health problems, much less is known about non-ionizing radiation. For decades, many physicists have argued that non-ionizing radiation could not affect the human body unless the electric field it created was intense enough to produce heat or an electric shock. But last summer a leading engineering journal declared that "a growing mass of evidence has virtually ended that debate: *electromagnetic fields too weak to heat an organism could still affect it.*"[7]

"The [recent] scientific literature on weak-field effects is massive," said Eric Lerner, a contributing editor to the Institute of Electrical and Electronics Engineers (IEEE) *Spectrum*. Lerner said that "evidence of the effects of EM fields on the nervous system and the immune systems of animals was already well established by the end of the '70s, while evidence of EM effects on the genetic material in cell nuclei has accumulated most rapidly over the past few years."

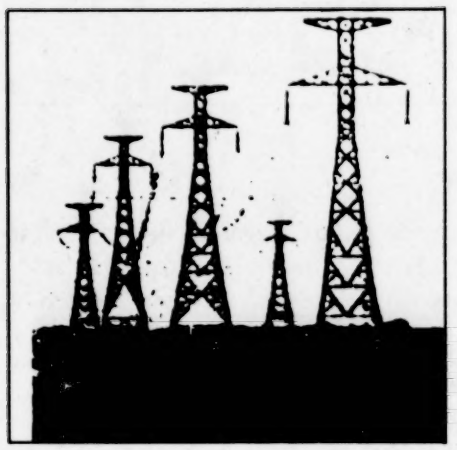
Discoveries that weak EM fields can affect living organisms heralds what prominent medical researcher Dr. Ross Adey has called "a biological revolution as fundamental as any since Descartes."[8] Biologists are becoming aware that our bodies' communication network of hormones and nerve impulses is "supplemented by a 'radio network' of weak electromagnetic fields."[9] This may mean that our bodies are far more sensitive to external electromagnetic fields than was previously thought. For this reason, ongoing research in this area could have important implications for healing uses of EM fields — and for people exposed to EM fields from high-voltage power lines, radar and broadcast towers, walkie-talkies, and other electronic devices. It will also matter to VDT operators and computer buffs who are exposed to weak EM fields from their terminals — particularly fields affected by extremely low-frequency radiation (ELF), hitherto ignored as a possible health hazard. ►


IBM PC, Apple II, Compaq
Kaypro
frequency in hertz (cycles per second)
Observed Frequencies in Personal Computers
Biological Effects
Apple II running games
IBM PC, Apple II, Compaq
Kaypro
Apple II running Choplifter
IBM PC
Apple II running games, Compaq
Apple II, Compaq
Apple II, Compaq
IBM PC
Apple II, Compaq
Compaq
Kaypro, Compaq
Macintosh, Kaypro
Apple II, IBM PC
Kaypro, Compaq
Compaq
IBM PC w/blue background
IBM PC w/blue background
1
10
100
1000
Increased excitability of nerve cells; Adey
Brain wave changes in people; Von Bise
Corrects heart arrhythmia; Von Bise
Increased lymphocytes/enlarged adrenal glands in rats; Chou/Guy
Human brain wave entrainment; Von Bise
Approximates median human alpha brain wave; Walter
Disturbed chicken cell embryos; Delgado
Entraining human circadian rhythms; Marino, Berger, Austin/Wever
Inhibits bone cell reaction to hormone; Luben
Greater calcium efflux in cat brains; Adey
Changes in rabbit brain cells; Hansson
Birth defects in swine; Phillips
Deformed pig and chicken offspring; Anderson
Reduced capacity of lymphocytes to kill foreign cells; Lyle
Inhibits bone cell reaction to hormone; Luben
Disturbed chicken cell embryos; Delgado
Embryonic development stunted in mice; Pafkova

"Observed Frequencies in Personal Computers" were measured by Rauscher and Von Bise in our offices. This is what they found between 0 and 1000 Hertz. The measurements have never been duplicated, in a lab or in our offices.

Each item in "Biological Effects" refers to a published scientific article where the experimenter found a particular biological effect at a particular frequency within that 0-1000 Hertz range.

There is no demonstrable causal relationship between observed frequencies and biological effects. Just because a 50-Hertz frequency once changed some rabbit brain cells doesn't mean you should sell your Kaypro. There could be differences in the wave shapes or differences in the environment that triggered the bio-effect; the reference could have been misread, or Von Bise and Rauscher could have mismeasured the Kaypro.



Extremely Low Frequency Radiation (ELF)

Below 3,000 Hertz

DIANA HEMBREE and KERRY NELSON: One particular set of dramatic findings from Spain are causing many researchers to take a harder look at ELF radiation — non-ionizing radiation below 3,000 cycles per second in frequency. In 1982, associates of Dr. Jose Delgado's research laboratory at the Ramon y Cajal Hospital in Madrid discovered that extremely weak *pulsed* magnetic fields — as much as 500 times weaker than the Earth's non-pulsing magnetic field (which is, in turn, 1/10,000 of the intensity of a typical industrial electromagnet) — had a profound impact on the development of chick embryos. The researchers found that Extremely Low Frequency (ELF) radiation (10, 100, and 1000 Hertz) at field intensities ranging from 1.2 to 129 milligauss disturbed the cell organization of the embryos, resulting in malformed hearts and central nervous systems.[10]

These exceptionally unusual findings were first reported in the professionally refereed *Journal of Anatomy;* then in *VDT News,* a newsletter that focuses on VDT health and safety issues. The experiments aroused skepticism and amazement among many researchers, who found it difficult to believe that such weak radiation could have such powerful effects. Delgado's experiments were replicated more recently by Dr. Kjell Hanson Mild of the Swedish National Board of Occupational Safety and Health, who confirmed that he found similar effects.

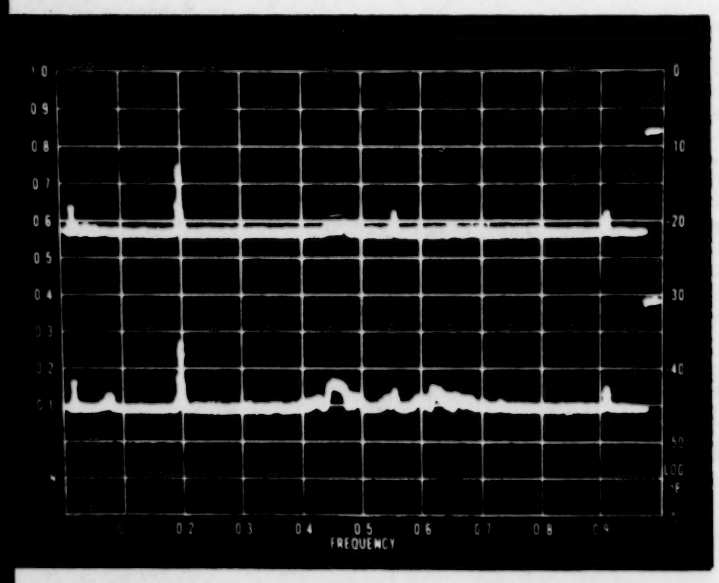
"The very fact that Delgado is getting effects at such low levels [of pulsed magnetic fields] deserves a lot of attention in the scientific community," said Dr. Arthur Guy, director of the Bioelectromagnetics Laboratory at the University of Washington School of Medicine in Seattle. Guy also said that the intensity of the current induced by at least some VDTs is "about the same" as that induced in Delgado's experiment. He cautioned, however, that "even a very slight difference [in the shape of the magnetic waveforms] may mean that the VDT waveform is not biologically active."

Despite these reservations, in a report to IBM that the company has not yet released to the public, Dr. Guy compared the results of his experiments with those of Delgado. He concluded that "it can be seen that induced currents where [Delgado] observed teratogenic effects in chicken embryos can be produced in human tissue exposed to VDT magnetic fields." Because of the high electric field strengths measured from some VDTs, he recommended to IBM that terminals be shielded.

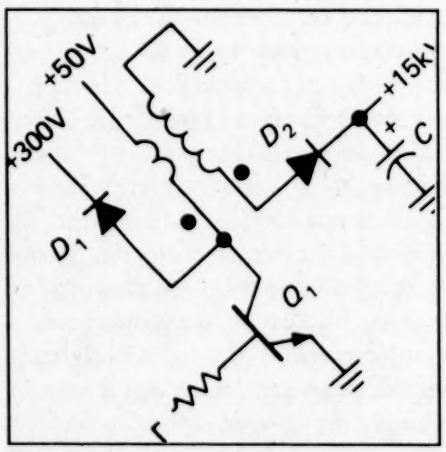
Although Dr. Guy has published a number of papers which say that he does not believe VDT emissions to be hazardous, he stresses the need for further study.

Intrigued by the "Delgado effect," other experts are, for the first time, "openly speculating that non-ionizing radiation from VDTs can have biological effects," reported *VDT News.*[11] Dr. Richard Tell, a physicist with the Environmental Protection Agency, has said that the possibility of health effects cannot be ruled out. The EPA, meanwhile, is planning to try to replicate Delgado's experiments.

ART KLEINER: Cathode-ray tube based computers produce ELF radiation at a variety of frequencies, depending on the type of computer and possibly even what type of program is running (see "Testing Computers for VLF and ELF" later in this article). Some of this radiation is generated by the terminal's AC power source, running at either 50 or 60 Hertz. Other radiation is generated from the pulses which move the electron beam vertically to refresh the full screen.



Rauscher and Von Bise measured the electromagnetic frequency radiating from five computers. They photographed each significant surge of power they found. In this image, the game LODE RUNNER is played on an Apple IIe, with an Apple III monitor with green letters on a black background. The oscilloscope photo shows both the electric and magnetic components of the detected radiation. The range for both halves is 0-20 Hertz. The top half is taken from a mostly-dark screen; the bottom half from a screenful of moving characters.



Very Low Frequency Radiation (VLF)

3,000—30,000 Hertz

DIANA HEMBREE and KERRY NELSON: Until the news about the Delgado experiments broke, the growing concern over VDT pulses had focused on VLF (Very Low Frequency) Radiation. The furor over VLF erupted in 1982, when Dr. Karel Marha of the Canadian Centre for Occupational Health and Safety (CCOSH) measured "relatively strong" pulsed VLF emissions from some VDTs and suggested that a

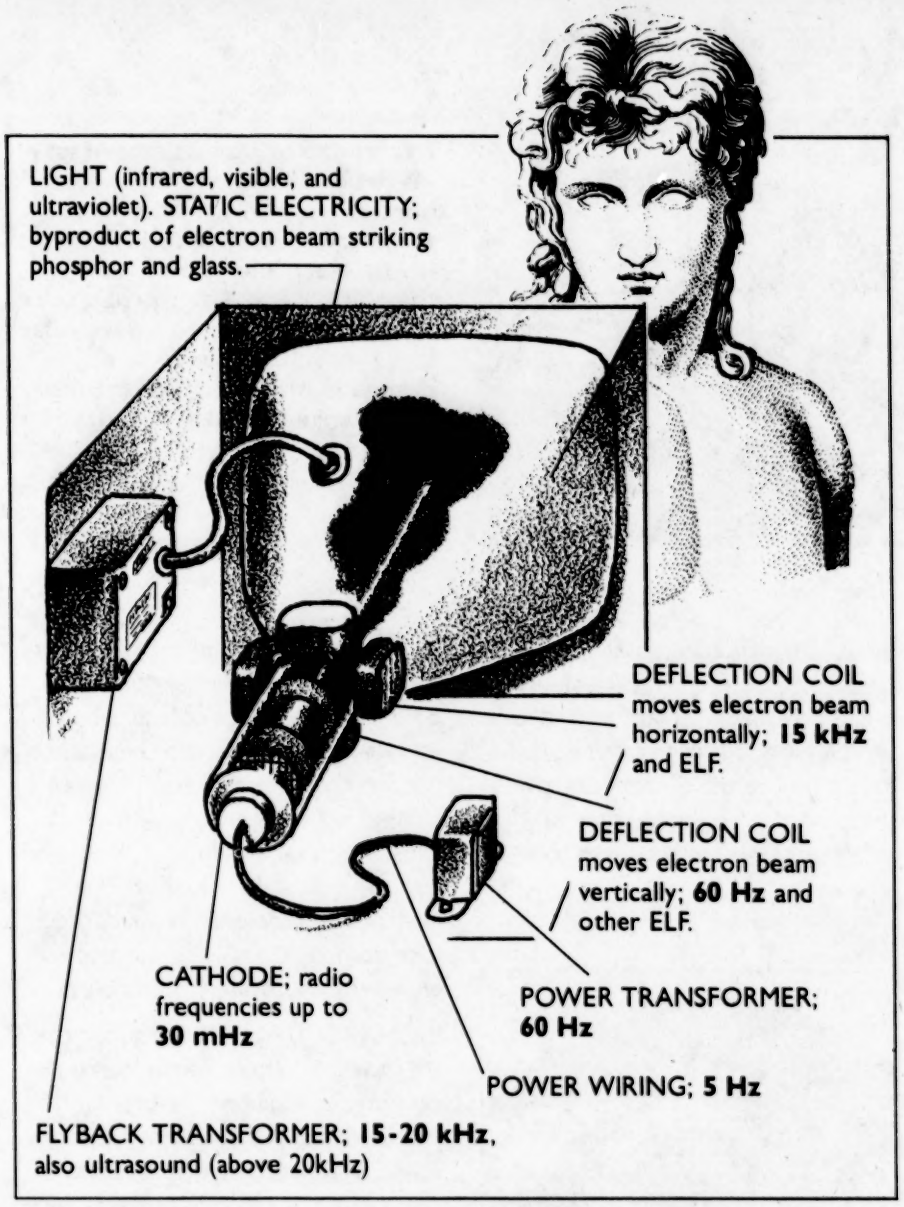
link between these emissions and the clusters of problem pregnancies at VDT worksites cannot be excluded from consideration.[12]

"Unfortunately, no one (still) has conducted studies on the biological effects of VLF pulsed electrical fields," Dr. Marha said recently. According to one researcher at CCOHS, pulsed VLF is "an extremely hot research topic right now." In computers, the VLF frequency radiation comes generally from the cathode ray tube's high-voltage power source, known as the flyback transformer. The transformer uses an electrical pulse to move an electron beam horizontally across the screen; as it does so, it emits pulses of radiation — almost 16,000 per second, or 16 kilohertz.

Testing Computers for ELF and VLF

ART KLEINER: We know of only a few scientists who have made an effort to measure computers or computer terminals for VLF/ELF radiation, and check the results against radiation frequencies with observed biological effects. One is a Canadian physician, Dr. Hari Sharma of the University of Waterloo in Toronto, who released a paper earlier this year based on experiments done at the Surrey Memorial Hospital, Vancouver, B.C. Responding to complaints at the hospital of fatigue and pregnancy problems among workers at some types of VDTs (those made by Perkin-Elmer) but not at others, Dr. Sharma measured all the VDTs for every type of radiation and several other types of possibly toxic agents. He found one difference between the terminal brands: "The electric and magnetic fields in the very-low-frequency region were found to be relatively high in the P-E terminals. . . . The data on adverse pregnancy outcomes from employees working with the P-E terminals in eight hospitals indicated that there might be linkage between exposure to EM fields and adverse pregnancy outcomes."[13]

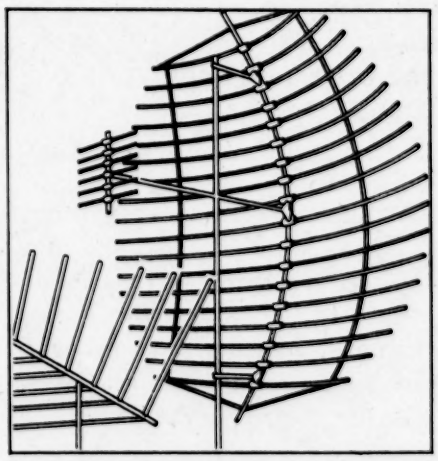
Another researcher of this topic is Dr. Elizabeth A. Rauscher, a physicist specializing in radiation, formerly with the University of California at Berkeley. With her partner, electronics engineer William Von Bise,[14] Dr. Rauscher came to the Whole Earth offices in February and measured the electric and magnetic fields emanating from five different brands of personal computer.


LIGHT (infrared, visible, and ultraviolet). STATIC ELECTRICITY; byproduct of electron beam striking phosphor and glass.
DEFLECTION COIL moves electron beam horizontally; **15 kHz** and ELF.
DEFLECTION COIL moves electron beam vertically; **60 Hz** and other ELF.
CATHODE; radio frequencies up to **30 mHz**
POWER TRANSFORMER; **60 Hz**
POWER WIRING; **5 Hz**
FLYBACK TRANSFORMER; **15-20 kHz**, also ultrasound (above 20kHz)

Most electrical devices emit several frequencies of electromagnetic radiation of varying intensities — the intensities proportional to the power running through the device. This diagram shows several sources associated with the cathode ray tube in a VDT or television set.

As it pulses, electromagnetic radiation creates two distinct phenomena which alternate rapidly across the region of the electromagnetic field. One is a dynamic electric field, with a detectable electric charge that constantly changes from positive to negative; the other is a magnetic field, or flow of magnetic force, constantly changing polarity. The two components, which incidentally oscillate at right angles to each other, may produce different biological effects, are shielded by different metals, and may produce ambiguous results when measured together — so Rauscher and Von Bise measured them separately.

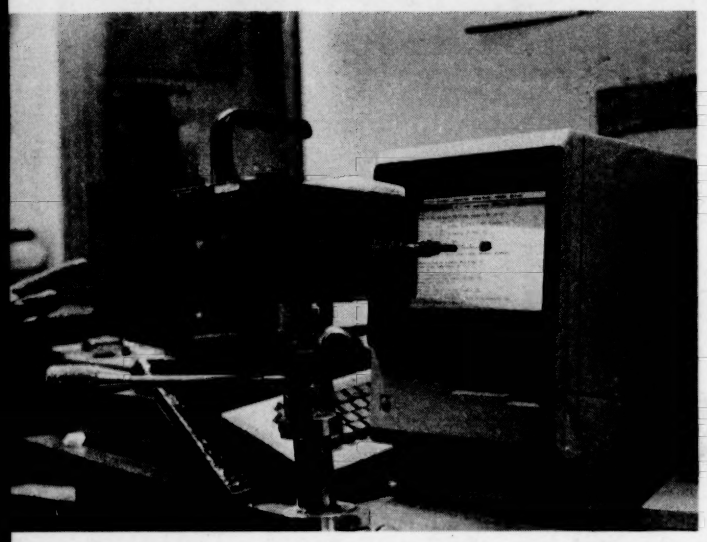
The tests were preliminary, and we only had one day to work in — so we didn't get to compare the five computers against, say, a regular TV set or a dumb video-display terminal. But the tests do suggest some very interesting preliminary indications.[15]



Microwaves and Broadcast Waves

50,000 Hertz–10^{12} Hertz

ART KLEINER: VDTs, including personal computers, produce radiation at most frequencies along the electromagnetic spectrum. However, existing VDTs seem to be shielded adequately against radiation at frequencies higher than ELF and VLF. They're required by FCC regulations



Rauscher and Von Bise used an electrostatic voltmeter, shown here in front of the Macintosh, to measure electrostatic fields (static electricity) from each of the computers. Their probe uses a ferrite rod tuned to a particular frequency. It responds to each change in magnetic field intensity as a change in that frequency.

to be shielded at radio and radar frequencies; otherwise, computer screens would interfere with distant broadcast and radar transmissions. Partly as a result of the controversy over microwave ovens, they're shielded against microwaves too.

Infrared, Visible,
and Ultraviolet Light
10^{12}–10^{17} Hertz

ART KLEINER: CRTs emit all forms of light — infrared, visible, and ultraviolet — in a variety of frequencies (depending on your monitor). Though intense infrared and ultraviolet light can cause burns and cataracts, at least one researcher concerned about VLF/ELF levels — Dr. Hari Sharma — found the terminals' infrared and ultraviolet light levels to be reassuringly low: "The levels of all three types of [visible-light spectrum] radiation from VDTs at the operating brightness are very low, and with present scientific knowledge, it is inconceivable that they present any hazard with respect to occupational exposure. However, the problem of brightness and glare in the workplace is of considerable importance with respect to 'blurred vision' and visual fatigue."

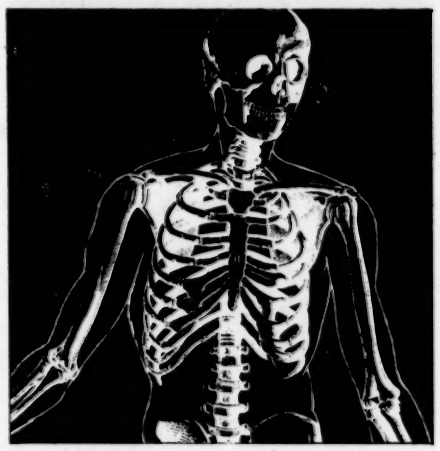
As Eric Lerner of the *IEEE Spectrum* reminded us in conversation, many of the symptoms people attribute to radiation — eyestrain, headaches, dizziness, stress, and possibly even permanent eye damage — might be caused or exacerbated by prolonged exposure to glare. Much of the evidence against glare is anecdotal. Our computer network correspondents debated about screen color:

RICHARD DALTON (regular contributor to Whole Earth computer coverage): A report issued by the *Journal of Applied Psychology* recently found that screens with reversed type (white on black or color) reduce reading speed by 11 percent.[16] That may explain why I've come to like black on amber for text production.

ERICK WUJCIK (computer columnist, the *Detroit News*): I'm glad I'll never have to use a black-and-white display again. Up 'til ten months ago the *Detroit News* had old-fashioned monitors. Every time a column was due I ended up with incredible eyestrain. I haven't ever had that problem on green phosphor or color monitors. And I find the soothing blue and white of ATARIWRITER to be a source of comfort.

LOUIS JAFFE: I don't like white-background, black-text displays because I'm quite sensitive to flicker, and it's much easier to see flicker in a large area of light video, like on the Macintosh. I don't like amber displays either. Amber was chosen because the human eye's spectral sensitivity peaks on amber; therefore it's supposed to make the most efficient human-machine system. But some esoteric students of color therapy claim that amber can produce all sorts of negative excitations in people. I can believe this after viewing amber displays even for very short periods. Green, on the other hand, has long been recognized for its restful qualities. My only problem with green is the way everything looks amber or purple when you look away after staring at the display for a long time.

ART KLEINER: We don't know of any credible research on the health effects of various colors from computer screens — but we have solid advice (in the "remedies" section of this article) on reducing and coping with glare.



Ionizing Radiation
(X-Rays and Cosmic Rays)
10^{17} Hertz and greater

ART KLEINER: They don't give off cosmic rays — at least not outside of comic books — but VDTs do give off X-rays as a by-product of the impact of high speed electrons on the viewing screen. This radiation is called "ionizing" because it alters the molecular structure of substances it passes through, creating ions. However, the consensus among researchers is that X-rays from computer terminals are relatively low-intensity; they're absorbed by the glass screen and by metal shielding built into the computer.[17] IBM tests several out of every hundred terminals and computers that it produces for X-ray leaks. The National Institute for Occupational Safety and Health (NIOSH) measures workplace VDTs for X-rays. I had a typesetting terminal tested by them in 1979; the measurer said he had checked hundreds of terminals and had never found ionizing radiation leaking through. Although you'll hear scare warnings from companies selling lead-impregnated shields, the only legitimate concern we've heard about X-rays involves older terminals with incomplete or corroded shielding.

Static electricity

DIANA HEMBREE: When Scandinavian office workers reported a wave of mysterious facial rashes in 1981, Norwegian scientist Walter Olsen began an investigation. After numerous experiments, he linked the rashes to an unexpected interaction between strong static electric fields generated by the VDTs and the bodies of the people at the keyboards.

Olsen discovered that unless the VDTs were deliberately shielded to block electric fields, "high voltages may extend into the air surfaces surrounding the units," with some terminal operators receiving static charges of as much as 2,000 volts per square meter. By measuring levels of airborne pollutants, Olsen also found that dust, tobacco smoke, and other contaminants floating in front of the VDT became positively charged and sought out the nearest grounded or oppositely charged surface — usually the operator's face. Then the particles clung to the face, causing rashes, itchy eyes, and dry skin. Olsen taped an adhesive-coated "collection device" on the faces of people sitting at VDTs, and measured the deposits hours later. He found microscopic particles "rained" on subjects' faces at a rate at least ten times higher with a VDT than without one. In one experiment the deposit rate topped 100,000 submicroscopic particles per square millimeter per hour.[18]

Since Olsen's study, researchers in the U.S. have demonstrated that the positively charged field around a VDT tends to neutralize negative ions around the unit, creating what they believe to be an unhealthy buildup of positive ions. Air ions appear to cause changes in the body through their impact on blood levels of serotonin, a powerful hormone that affects the endocrine glands and central nervous system. Some reseachers have linked high positive ion concentrations with nausea, fatigue, metabolic disorders, irritability, headaches, and respiratory problems.[19]

ART KLEINER: Where does the static electricity come from, you ask? According to Bob DiMatteo's book, *Terminal Shock*, it's "produced as a result of electrons being ejected from the electron beam. These electrons build up on the screen and in surrounding space."[20] Static electricity is a by-product of the same force that projects electromagnetic radiation, and is thus linked in intensity to the electromagnetic field around the computer. The more intense the electromagnetic field, the greater the static electricity. Unlike electromagnetic radiation, static electricity builds up only in the direction the electron beam is focused — the front of the computer.

Sound

ART KLEINER: The "evidence" that computers and VDTs give off ultra-high-pitched sounds is largely anecdotal. Some people can hear if a CRT is on in the general area, and claim to be irritated by the sound. The following exchange of letters in the January 1984 *Byte* magazine highlighted the problem, saying that flyback transformers, as they produce 15 kilohertz electromagnetic radiation, also produce sound waves at the same frequency. Sound waves themselves are not electromagnetic rays (thus, they don't travel at the speed of light), but ripples of vibration passing through substances.

WILLIAM G. UNRUH (Department of Physics, University of British Columbia): [The high-frequency noise from computers] is a ubiquitous problem caused, I believe, by the fact that the monitors are designed by deaf engineers. Most men have lost their hearing at 15.7 kHz by their early twenties and thus build and design the monitors with cheap flyback transformers that vibrate at the flyback frequency. . . . Measurements near the cooling holes of many monitors give readings as high as 90 decibels.

GARY KEENE [quoting a letter in the October 1984 *Softalk*, p. 43]: J. Barry Smith of Massachusetts, a professional audiologist, was able to measure 15-kHz sound-pressure levels as high as 44 decibels at the operator's ear. I think this problem may be widespread, especially among the female population of computer operators, who typically have more acute hearing than men.[21]

Posture, stress, chemicals, gas

ART KLEINER: Bad posture — from prolonged sitting at a poorly designed workstation — may be the most widespread computer health hazard of all. The "remedies" section of this article contains much information on posture problem prevention.

According to Eric Lerner, stress seems to exacerbate other problems — particularly glare and posture. Perhaps that's why VDT workers, whose work output is often automatically measured against time, show more symptoms as a group than personal computer users (except those of us stressed by deadlines).

Just in case you were wondering, Dr. Hari Sharma performed a chemical and gas analysis of his VDTs. He found no significant trace of PCB, environmental toxins, ozone, carbon dioxide, or carbon monoxide.[22] We have heard no other charge that VDTs produce toxic chemicals or gases. Whew!

Nagging question #1:

Why worry about computer terminals and not about TV sets?

DR. ARTHUR FRANK (chairman, Dept. of Preventive Medicine and Environmental Health, University of Kentucky at Lexington): A television set is basically the same kind of

equipment as a computer terminal — in fact, some of your home computer manuals say "hook it up to your home television set." There are some differences, though, from a medical point of view. With the exception of little kids like my own, who like to sit right in front of the tube and kiss Mr. Rogers in the afternoon, most of us don't watch television within 18 inches of the screen — as we do with terminals. And radiation diminishes by the square of the distance. So the level of radiation of whatever type that you get sitting six or eight feet across the room is orders of magnitude less than what you get sitting 18 inches from a screen.

Televisions have indeed been around for a long time and if they have health effects they are obviously not major compared to other factors in our lives. Those health problems would either be acute and we would have seen something by now, or it may be that a generation with 30, 40, or 50 years of exposure may have some health problems in older age different from any previous generation. But that's hard to study, because some of the other factors change as well. If TV watching adds one percent to mortality and you reduce it three percent by modifying your diet, you get a net loss of two percent mortality at a given age, let's say, and a researcher will miss the cause-effect relationship.

Nagging question #2:

What about government standards for radiation? Don't VDTs fall within those?

DIANA HEMBREE and KERRY NELSON: Many government and industry officials assure computer users that VDT radiation falls within federal standards, but this claim is misleading. The U.S. has NO standards — only voluntary guidelines — that limit employee exposure to non-ionizing radiation from VDTs.[23] What's more, the U.S. has no standards at all for pulsed VLF or ELF radiation — the VDT emissions most suspicious now as possible hazards. Ironically, VDTs are not subject to the compulsory testing, reporting, and labeling requirement that the U.S. government has developed for that other common cathode ray tube product — the TV set.[24]

Even if government guidelines on non-ionizing radiation did apply to VDTs, the guidelines themselves are too weak, according to some scientists. "We're already seeing profound biological effects at exposure to radiation levels well below our current standards," insists Dr. Eldon Byrd, until recently a physicist at the Naval Surface Weapons Institute in Silver Springs, Maryland. This point was recently underscored by the findings of Dr. Przemyslaw Czerski, a leading Czech radiation researcher and visiting scientist at the U.S. Public Health Service: microwaves may, under some circumstances, cause chromosome damage in mice at power levels eight times below the recommended safety standard for humans.[25] VDTs do not emit microwaves, but since radars, microwave ovens, and many other products do, this finding caused a small stir.

Industry has recently started a drive to regulate electromagnetic radiation, partly to deter state and local governments from setting their own, possibly stricter standards.[26] Meanwhile, current U.S. guidelines for non-ionizing radiation may provide only an illusion of safety. At NIOSH, William Murray reports that his agency is now studying "how to take correct measurements [of non-ionizing fields] from VDTs." This suggests that the previous guidelines may be outdated, since the old measurements may be invalid.

One physician, Dr. Robert Becker, is worried about standards for extremely low frequency (ELF) radiation in particular. A former professor of orthopedic surgery at the State University of New York, Becker helped pioneer the use of ELF to heal bone fractures. He also took part in a federally sponsored study which linked 60 Hertz ELF to psychological disturbances.[27] He has said that there is more than enough evidence for government regulations.

"I don't want to wave a red flag," he said at a 1982 conference on VDTs and non-ionizing radiation held in Ottawa, "but at the same time, I feel obliged, as a physician . . . to spell these things out . . . I trust and hope I will live long enough to finally see a response from the federal government that 'yes, there are biological effects from low-frequency radiation, and yes, they are serious, and yes, we ought to do something about it.' "

Nagging question #3:

If radiation is such a danger, why aren't there epidemics of cataracts and birth defects? Why do they appear in isolated clusters?

ART KLEINER: Not an easy one to answer with certainty. I've heard six different contradictory responses while editing this article.

1) The clusters are isolated now, just among people who use the terminals most; since cataracts develop slowly, their incidence will appear more widespread later.

2) The clusters are not as isolated as they appear — partly because low-level health problems are often not reported, partly because no systematic effort has been made to catalog all the reported cases, and partly because it's hard to recognize clusters in uncontrolled environments where cause-and-effect relationships are murky.

3) Indeed the so-called "clusters" are statistical coincidences, and demonstrate no radiation danger.

4) Since ELF measurements differ so much from one brand of VDT to the next, and since biological effects vary with changes in radiation pulse frequency, some VDT models produce problem "clusters" and others do not.

5) As with allergies, some people may be affected while others are not.

6) Even one cluster is too many if it can be proven that the damage is related to radiation from VDTs.

Nagging question #4:

Why is it so difficult to prove whether or not a "cluster" of birth defects or cataracts is related to VDT radiation? Can't one easily measure radiation from the computer terminals at such a site?

DIANA HEMBREE and JENNIFER McNULTY (Center for Investigative

Reporting): Government health agencies in the U.S. assure the public that alleged problem pregnancy clusters are statistical flukes.[28] Yet, interestingly, government researchers investigating these clusters — at sites in Dallas, Georgia, San Francisco, and Michigan — have consistently refused to test the VDTs themselves for radiation emissions.

For example: more than 240 women work at the reservations desk of United Airlines in San Francisco. When an informal office survey showed a 50 percent rate of problem pregnancies between 1979 and 1983, the women became alarmed about possible harmful effects from VDTs. (The average miscarriage rate in the U.S. approaches 20 percent; the average birth defect rate is 2 percent.) Employees requested an investigation by NIOSH and were surprised when the agency failed to test the machines for radiation emissions.

When Dr. Peter Lichty, the NIOSH medical officer in charge of this investigation, was asked why there was no VDT radiation testing in the San Francisco cluster, he said that it would have been "a big deal to fly a couple of techs and hundreds of pounds of equipment" out to the office to measure what he described as standard equipment. In a similar case in Alma, Michigan, Lichty reportedly told the employees that testing for non-ionizing radiation would be too expensive.

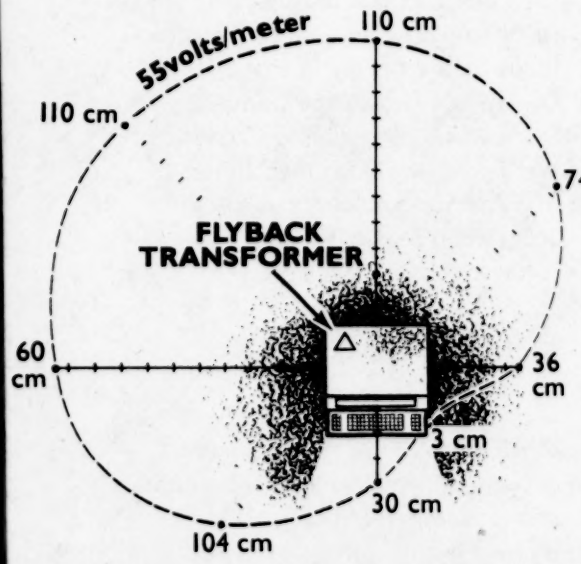
Diana Roose, research director for 9 to 5, National Association of Working Women, says that her organization has repeatedly asked that VDTs in every problem pregnancy cluster be tested for all frequencies of radiation. NIOSH has consistently failed to do so. Currently, NIOSH is planning a large-scale investigation into VDTs and reproductive risks that is slated to survey 4000 women — but which will not test the VDTs for radiation emissions. In the words of Laura Stock, coordinator of a group of 25 unions called the VDT Coalition, to rule out radiation as a possible source of problem pregnancies without testing the machines themselves is "not giving us a complete picture of what the situation is."

ART KLEINER: What's really needed is systematic laboratory testing of all computer and terminal brands for ELF and VLF — under a variety of conditions, running a variety of types of software. The kind of tests that Rauscher and Von Bise began to do in our offices, that Sharma has done at the University of Waterloo. Unfortunately, no one is likely to fund that kind of comparative testing anytime soon — certainly not the computer manufacturers, who have a vested interest in avoiding the subject as much as possible. The ideal testers would be a non-profit like Consumers' Union, but it's unlikely that they could afford to do it.

Nagging question #5:

What happens when VDT-related health compensation issues show up in the courts?

DIANA HEMBREE and JENNIFER MCNULTY: VDT operators are just beginning to seek compensation for VDT-related health problems. This January, *VDT News* reported that a 54-year-old secretary has won what is thought to be the first worker's compensation case involving VDT-induced cataracts, for which she was diagnosed only seven months after beginning work on a VDT.[29] VDT operators have also recently won worker's compensation settlements for a variety of other VDT-related health problems including eye ailments, wrist inflammation, and stress-related psychological disorders.



The back of a terminal may be more dangerous than the front. This diagram shows where a researcher at Ontario Hydro Corporation measured electromagnetic field intensities of 55 volts/meter in various locations around a cathode-ray tube. A person sitting 120 cm (4 feet) from the rear corner will experience the same electromagnetic radiation intensity as a person sitting 30 cm (1 foot) from the front of the set.

Remedies

ART KLEINER: Many remedies are aimed at more than one hazard — hence they're described separately. Much of this section is anecdotal, but we included only material about which we had reasonable confidence and agreement. Me? I use a grounded electrostatic shield (which I should report was a gift from Mike Skaar, one of the contributors to this article); I keep a houseplant near the computer to counteract positive ions; I turn down the brightness; I often use my non-VDT Radio Shack Model 100 instead of my VDT-based Kaypro II; and I stop periodically to rest my eyes, rub my neck, take a walk. All of these make a difference that I perceive — whether it's an actual difference or a placebo effect, I do not know.

Controlling the light

ART KLEINER: Have symptoms like eyestrain and headaches? Worried about radiation? Check these remedies against glare first — it produces the same symptoms.

ERICK WUJCIK: First rule of glare and light: if it hurts, stop doing it! Nothing is right for everyone. You've got to experiment to get it right. If your eyes are getting sore and itchy, get up, look around at different things, change your lighting environment.

Don't let bare bulbs or direct sunlight bounce off your computer screen. Indirect, diffused lighting is best. All too often I've seen work-

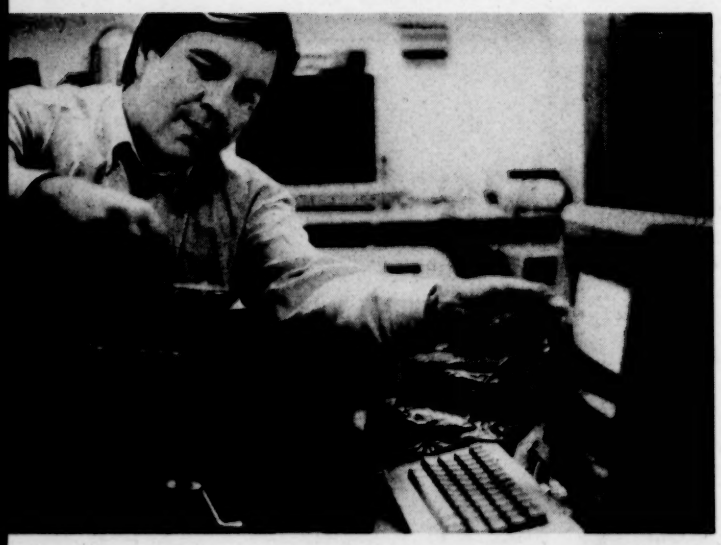
places with floor-to-ceiling glass, bare fluorescent bulbs, and computer tubes turned up to full contrast to compensate.

Never, never, never use fluorescent lights anywhere near video terminals. This can create a really nasty flicker that only your subliminal unconscious mind and neural system will be aware of.

The room light intensity should match the light from the screen. My own rule of computer luminance (not supported by any scientific studies OR government agencies) says that if your monitor light can cast shadows then the room light is too dim.

LOUIS JAFFE: Use the minimum contrast setting at which you can comfortably see the text. Try setting a monitor contrast level that feels a bit dimmer than you thought comfortable. This is because when you change the setting it takes your eyes a few moments to adjust. You will probably find that you can work longer at relatively low contrast settings. I use very low contrast and have only had eyestrain during inordinately long sieges of work.

On the Kaypro, Compaq, and many other machines, the so-called 'brightness' control, which is the only external adjustment for the monitor, is actually the contrast control. If one of these systems shows brightness across the whole screen in normal use, then the internal brightness control needs to be turned down. In a Compaq this is a simple screwdriver adjustment accessible by removing the top cover. Not sure about Kaypro.



While they were in our office, Mike Skaar helped Rauscher and Von Bise test the effectiveness of radiation shields. From their measurements, they tentatively concluded that grounded screen shields neutralize the static electric charge (but not the electromagnetic radiation), and eliminate the positive ions in the air in front of the screen.

Choosing a radiation shield

ART KLEINER: Shields, fitting over the front of the computer screen, stop glare and seem to stop some other hazards too. I asked Mike Skaar, whose company Ergonomic Computer Products in San Francisco evaluates and sells filter shields for VDTs, to explain the differences between different models.

MIKE SKAAR: The two most affordable types of VDT filters are fiber mesh, which cuts glare the way a venetian blind does; and coated film or glass, which diffuses glare. But we recommend either type only with the enhanced protection of electrostatic grounding (which adds about $25 to the cost), because it neutralizes the static electricity fields created by VDTs. This eliminates positive ions in the air, and greatly reduces the amount of dust that an electrostatic field will either attract to the VDT (which means you have to clean the shield constantly) or propel into your eyes.

You should consider how many hours a day you use your computer. Five minutes a day at the terminal doesn't justify buying a filter. What's the cutoff point before a shield is worth buying? The state of California has vacillated between one hour and four hours in determining their legislation. For now they've settled at two hours nonstop or four hours overall during a single day. That's just one legislature's opinion, but it seems reasonable to me.

ART KLEINER: Subjectively, electrostatically grounded shields FEEL much better than the other kind. I always felt a subtle stress from my Kaypro II. I feel it much less with the shield in place, and it returned a bit when I disconnected the ground wire.

Specific models? Right now (May 1985), there are two surface-mounted fiber-mesh shields with electrostatic grounding. They both work comparably well. The less expensive is made by Screen Data Corporation ($50 and up); the more expensive by Sunflex ($70 and up).

Optical Coating Laboratories makes the least expensive optical glass shield with an electrostatic ground — it runs $99 and up. These shields are all available without electrostatic grounding — but that makes them much less effective. Avoid lead-coated shields — they safeguard only against X-rays, which are already shielded against in your computer. On the other hand we have this report . . .

PAUL SMITH (correspondent on CompuServe): I purchased a lead-screened shield for my Macintosh last summer just after I got the computer. I had no idea just exactly what I was protecting myself from . . . but I also didn't trust the safe levels of radiation that VDTs put out. My sales rep had a real laugh when he saw it. Then in October a friend of mine, who is trying to get the Canadian Broadcasting Company to remove the communications tower from just across the road at his summer home, brought in a meter that read ELF radiation levels. He brought it over and tested it out on my Mac. With the screen off, the meter read very high from the center of the display. With the shield in place there was little movement of the needle in front of the display, but behind the computer there was a high reading. The meter was borrowed from the University of Waterloo and was especially accurate in readings under high-voltage transmission lines.

Shielding the outside

MIKE SKAAR: At my ergonomic consulting firm, we still have doubts about whether EM radiation will ultimately turn out to be harmful. If it does, placing a filter on the front of the VDT may offer little protection. Many of the radiation sources are at the back of the machine, so the entire cabinet of the VDT must be shielded.

DIANA HEMBREE: First, make sure that your computer or terminal has metal shielding that covers the flyback transformer. If your terminal is a post-1980 model, it will contain at least some shielding, because the

Federal Communications Commission ruled in 1979 that manufacturers had to shield the source of electromagnetic signals that had been interfering with radio and military communications. In some models, the shielding may not cover the entire flyback transformer; you can often check with the manufacturer for specifics. The cost of installing copper or aluminum foil for shielding can be as little as $5 per machine; but it should be done by a technician (it's too easy to shock yourself with current stored in the monitor's capacitors, even after it's turned off) and may void some warranties.

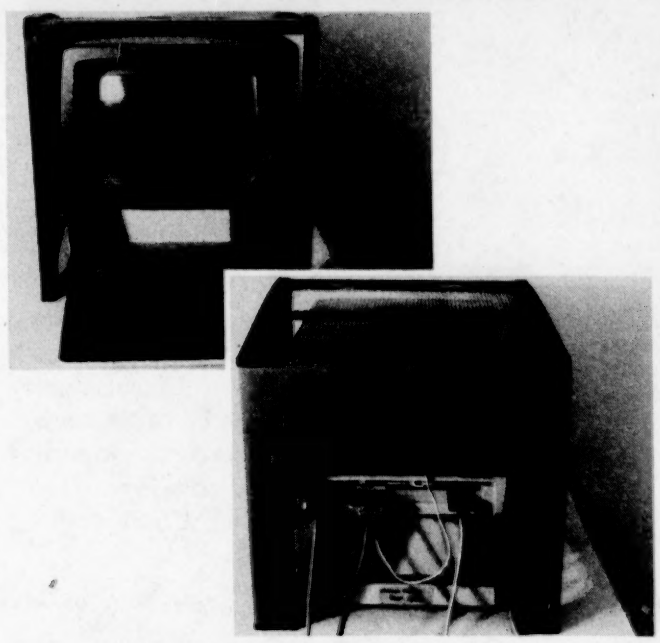
Another shielding option, recommended by the Canadian Centre for Occupational Health and Safety (CCOHS), is a do-it-yourself metal shielding hood. CCOHS researchers have found that a copper mesh foil glued to cardboard, attached to a ground wire, and covering the five sides of the VDT, cuts VLF emissions to almost zero. The tops of terminal units with built-in printers do not require shielding since the printer itself blocks VLF emissions.

JAMES STOCKFORD: It is very important that the foil interior be grounded. All foil surfaces must be connected to each other in such a way that they will conduct electricity, and they must be surely connected to a wire that runs to a real ground. That connection is extremely important. The safety ground (round hole) in some wall outlets is not always grounded electrostatically. Use a cold-water pipe or be sure that the receptacle is truly grounded, not just shock grounded.

ART KLEINER: Unfortunately, ordinary metal shielding does not block a VDT's ELF magnetic fields. To do so, one must use a special alloy called Mu metal, which is difficult to obtain commercially and may require special training to install.

DIANA HEMBREE: Even with shielding, do not sit directly behind or to the side of another terminal. Since the computer's high-voltage power source, the flyback transformer, is located in the back or side of a VDT, the radiation levels are highest at the back of a terminal. On pre-1975 models, Dr. Arthur Guy has measured electric fields one centimeter from the set with intensities up to 40,000 volts per meter — readings which he calls "astronomical, what you'd get under high voltage wires."

ERICK WUJCIK: I couldn't agree more about the problems of exposure to the sides and backs of computer terminals. Don't forget that the machines in office environments are often MUCH more high powered (in voltage) than most PCs at home. And workers in office environments are often placed directly next to, or in back of, the terminals. I can think of at least four places in the newsroom of the *Detroit News* where workers routinely use the backs of terminals to lean on . . .



One suggested means to reduce VLF emmisions is a copper foil shield that fits completely around the computer. This one, developed by the Canadian Centre for Occupational Safety, boasts a copper screen on top to allow the computer's heat to dissipate.

Combating static electricity

DIANA HEMBREE: Besides using filters and grounds, there are other ways to cut static electricity near a CRT. Keep windows open to combat the "tight-room" syndrome; wash your face frequently to prevent particle adhesion; keep indoor relative humidity above 40 percent; grow leafy houseplants near the terminal; and/or install a negative ion generator.

Posture

LOUIS JAFFE: There are detailed ergonomic standards developed in both the USA and Europe which address the questions of just how a computer operator should be seated and oriented to his/her equipment. The advent of the detached, low-profile keyboard is one industry response to this research. Generally speaking, some things to watch are:

Make sure you have a comfortable chair, adjustable for seat height, backrest height, and backrest angle; and experiment with the height settings till it feels just right for you. Don't use any furniture which forces you into an unnatural posture.

Monitor viewing distance is partly a matter of taste and partly dictated by the screen size. Generally, portable computers with a built-in nine-inch screen need to be elevated or angled up quite a bit for a comfortable viewing angle.

To see if the monitor is the right height, close your eyes and incline your head to what feels like the most comfortable sitting position; then open your eyes and see if you're in fact looking at the monitor or above or below it. Adjust the monitor height to your sitting position, not the other way around.

ERICK WUJCIK: People weren't made for staring up. Not as a steady thing anyway. Make sure that you're looking at a screen that's slightly (from 5 to 35 degrees) BELOW eye level.

Keep your arms straight! You shouldn't be reaching either UP or DOWN to type on a keyboard. In a normal sitting position your upper and lower arms should form a right angle and your hands should reach DOWN just a tad bit towards the keyboard. Nobody has perfect posture. At the keyboard you should slump BACKWARDS instead of FORWARDS. Straight is best, but it's sort of an idealized goal.

VDTs and pregnancy

DIANA HEMBREE: Experts disagree whether pregnant women should avoid VDT work entirely. A growing number of employers, including Boston University and the City of San Francisco, have agreed to provide alternative non-VDT work during pregnancy. ►

Warning: although there has been a recent surge of interest in lead aprons for pregnant operators, would-be users should know that they do not block low-frequency radiation — only ionizing radiation which is already shielded out. Also, the CCOHS has warned that wearing a lead apron could be hazardous by causing postural problems and putting extra weight (and possibly extra stress) on the fetus. Concluding that lead aprons provide "no benefit whatsoever," CCOHS advises women NOT to use such equipment.

DR. ARTHUR FRANK: I get called not infrequently by women who say "I am pregnant or want to be pregnant, should I work with the screen?" And I say that within whatever your company policy is, try to reduce your exposure and get shifted to another job for a while if you can, BUT the evidence isn't there yet that you know you ought to go to the wall and lose your job over this. These are complex issues from a public-health perspective and an acceptable-risk perspective.

Buying a computer

ART KLEINER: It would be lovely to say, "such-and-such a monitor is safe; so-and-so is not." Unfortunately, nobody has systematically tested personal computer monitors yet. We can't even definitively recommend color monitors over black-and-white or vice versa.

DIANA HEMBREE: Radiation specialists I interviewed disagreed whether color monitors on VDTs were likely to emit more radiation. They said unanimously that color monitors *generate* more radiation due to higher voltages, but some contend that the terminals' shielding blocks such radiation, making the difference negligible.

LOUIS JAFFE: Video reigns now for computer displays only because it is inexpensive and versatile. But besides the safety questions, it is power-hungry, heavy, and bulky. In the next year, for the first time, I think we'll see new technologies give video a run for its money.

The principal contenders are Liquid Crystal (LCD), Electroluminescent (EL), and Plasma displays. Very simply: All are flat sandwiches with outer, sealing layers, and inner, active layers. In an LCD (like that on the Radio Shack Model 100), crystals suspended in a liquid rotate to either pass or block light (reflected or backlight). In EL, a solid chemical layer glows. In plasma, a layer of sealed gas glows.

LCDs have been plagued by poor contrast, jerky scrolling, and restricted viewing angles, but solutions to these problems are at hand. Truly legible, full-screen LCDs are out of the labs, will reach the retail market in the next generation of portable computers, and will be cost-competitive with video.

Full-screen EL displays are standard equipment on the Grid Compass and on HP's new Integral. If you've seen either of these machines you know their displays are sharper than any video screen. EL displays still cost $800 at the factory level, which is why they've appeared only in premium hardware. With mass production, the price could fall drastically.

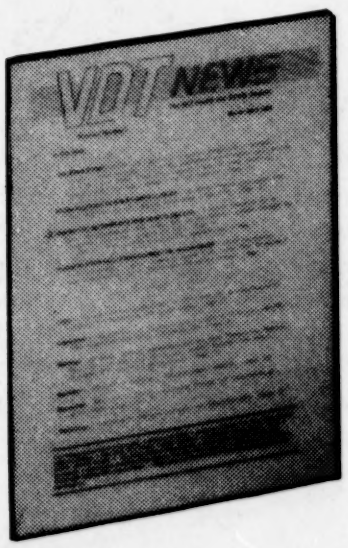
Plasma has been used for years in military graphics displays. The only civilian product I know of is a 17-inch screen from IBM that costs about $6000. It must be seen to be believed. It does something like 800 x 1200 pixel graphics with perfect linearity, or it can have four windows on screen at once, each showing 25 x 80 characters.

RICHARD DALTON: At present, LCD is certainly the most practical alternative to CRTs, yet there is the nagging problem of poor contrast under many ambient lighting conditions. Morrow claims to have achieved a modest breakthrough in this area with their Pivot portable. Apparently, they are using electroluminescence as a background to markedly increase LCD contrast.

VDT News

ART KLEINER: Recommended source of current information on VDT health hazard information.

VDT News
Mark A. Pinsky, Editor
$42/year (6 issues) from:
VDT News, P. O. Box 3000 (Dept. JJ), Denville, NJ 07834



A call to arms

DIANA HEMBREE: Keep track of the health problems, if any, that you and others in your home or office think might be VDT-related: 9 to 5 and other labor groups who monitor this information would appreciate hearing from you. Also, keep a record of the model and date of manufacture of your terminal, as well as the time period that you used it. If you should ever seek compensation for a health problem that you associate with your VDT work, you'll need documentation.

While electronics companies campaign to convince users that computers are safe, unions and womens' groups are pressuring the government to set safety guidelines for VDT use on the job and to further investigate potential hazards, including those of radiation. NIOSH is planning a mass survey of 4000 American women to determine whether there appear to be more reproductive problems among VDT users than non-users, but more needs to be done. VDT radiation may prove to be harmless, but only further investigation will determine its safety and reassure worried users.

ART KLEINER: The Computer and Business Equipment Manufacturer's Association argues fervently in their literature against government regulation of VDTs. The question of government regulation is important

for clerical workers trapped in their jobs, but for personal computer owners it's not nearly as important as clear information. If manufacturers released the data on how much they shield their machines, it would be a tremendous help to us concerned purchasers. A downright humanitarian deed.

Not knowing the final word is frustrating. There's enough evidence of danger to be concerned; not enough to be convinced. It's not time to scream "fire" in the maternity ward yet, but I feel personally encouraged that people are in here sniffing for smoke. ■

Addresses

Canadian Centre for Occupational Health and Safety: *250 Main Street East., Hamilton, Ontario L8N 1H6, Canada.*

9 to 5, National Association of Working Women: *1224 Huron Road, Cleveland, OH 44115.*

A wide selection of VDT filter shields is available from: Ergonomic Computer Products, 1850 Union Street, Suite 125, San Francisco, CA 94123.

William Von Bise suggests one source for Mu metal: A-Vance Magnetics, 625 Monroe Street, Rochester, IN 46975; 219/223-3158.

A manufacturer of VDT shields: SunFlex, 20 Pimentel Court, Novato, CA 94947.

Acknowledgements

Ledger Heavilon helped articulate some of the scientific descriptions. Annette Floystrup of Sunflex, Inc., provided essential background material. Diana Hembree and Mike Skaar contributed research and help far beyond what shows here. Paul Hawken and Richard Dalton prodded this article into existence. Levi Thomas, Dr. Arthur Frank, and *VDT News* editor Mark Pinsky advised and helped.

Notes

1) Dr. Karel Marha, "The State of Knowledge Concerning Radiation Emissions from Video Display Terminals" (paper presented at "Science Focus," Ottawa, Canada, 1982).

2) U.S. Congress, House Committee on Science and Technology, *Potential Health Effects of Video Display Terminals and Radio Frequency Heaters and Sealers*, May 12-13, 1981.

3) Lewis Slessin and Martha Zybko, *Video Display Terminals: Safety and Health: Excerpts from Microwave News* (New York: Microwave News, 1983).

4) Dr. Edward Rinalducci et al., *Video Displays, Work, and Vision* (Washington, D.C.: National Academy Press, 1983).

5) Joann S. Lublin, "Fearing Radiation, Pregnant Women Win Transfers from Work on Video Display Terminals," *Wall Street Journal*, April 6, 1984.

6) Eric J. Lerner, "The Drive to Regulate Electromagnetic Fields," *IEEE Spectrum*, March 1984.

7) Ibid.

8) Ibid.

9) Ibid.

10) Jose M.R. Delgado et al., "Embryological Changes Induced by Weak, Extremely Low Frequency Electromagnetic Fields," *Journal of Anatomy* 134 (May 1982): 533-51.

11) "Special Report: Focus on VDT Radiation Emission," *VDT News*, September-October, 1984.

12) K. Marha, B. Spinner, and J. Purdham, *The Case for Concern About Very Low Frequency Fields from Visual Display Terminals*, Hamilton, Ontario: Canadian Centre for Occupational Health and Safety, April 22, 1983.

13) Dr. Hari D. Sharma, *The Investigation of a Cluster of Adverse Pregnancy Outcomes and Other Health-Related Problems among Employees Working with Video Display Terminals in the Accounting Office at the Surrey Memorial Hospital, Vancouver, B.C.*, 1985. ($20 postpaid from Radiation and Environment Management Systems, P.O. Box 1, Waterloo, Ontario N2J 3Z6, Canada.)

14) Physicist Elizabeth Rauscher and electronics engineer William Von Bise co-founded Tecnics Research Laboratories, P.O. Box 667, San Leandro, CA 94577, in 1983.

15) Rauscher and Von Bise measured ELF electromagnetic radiation (0 - 10,000 Hz) from five computers — IBM PC with Princeton Graphics color monitor, Apple Macintosh, Apple II with monochrome monitor, Kaypro II, and Compaq portable. Their observations:

Color images emitted significant electromagnetic radiation at many more frequencies than black-and-white images.

On the color IBM PC, moving text emitted significant radiation at more frequencies than stationary text. On the black-and-white Mac and Compaq, it did not.

On the Apple II (black-and-white), graphic games (LODE RUNNER and CHOPLIFTER) emitted more significant radiation at different frequencies than text (stationary or moving) on the same computer.

16) Sandra Ernst Moriarity and Edward S. Scheiner, "A Study of Close-set Text Type," *Journal of Applied Psychology*, November 1984.

17) This "consensus" is partly detailed in Dr. Sharma's paper (see note 13 above). Also see *Harvard Medical School Health Letter*, April 1983.

18) Walter Cato Olsen, "Electric Field Enhanced Aerosol Exposure in Visual Display Unit Environments," in *Chronicles of the CHR* (Bergen, Norway: Michelsen Institute, 1981).

19) Charles Wallach, *Possible Health Hazards of VDTs*, 1982. (Report Prepared by Designs and Decisions, Inc., 8400 West Park Dr., Suite 600, McLean, VA 22101.)

20) Robert DiMatteo, *Terminal Shock: The Health Hazards of VDTs* (Toronto: NC Press, 1985). (See review, page 79.)

21) *Byte* magazine letters column, January 1984.

22) Dr. Hari Sharma, op. cit. (see note 13 above).

23) Eric J. Lerner, op. cit. (see note 6 above).

24) Sheryl Gordon McCloud, "Pink Collar Blues: Potential Hazards of Video Display Terminals," *Southern California Law Review*: 57 (November 1983).

25) Eric J. Lerner, op. cit. (see note 6 above).

26) Eric J. Lerner, op. cit. (see note 6 above).

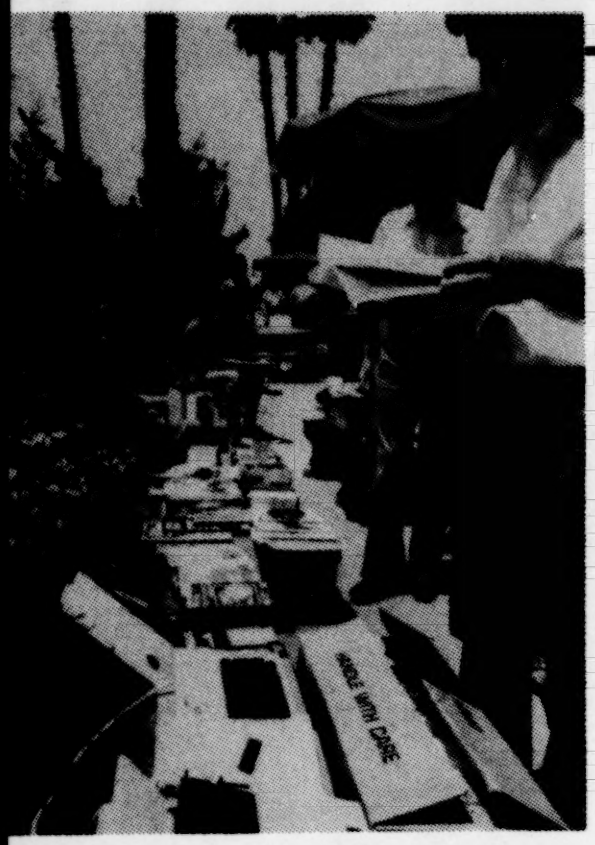
27) Dr. Robert O. Becker and Andrew A. Marino, *Electromagnetism and Life* (Albany: State University of New York Press, 1982).

28) Center for Disease Control, Abortion Surveillance Branch, *An Unexpected-Expected Cluster of Adverse Pregnancy Outcomes in Video Display Terminals* (EPI-80-113-2), Dallas: May 11, 1981. Also: U.S. Army Environmental Hygiene Agency, *Investigation of Adverse Pregnancy Outcomes* (Occupational Health Special Study No. 66-32-1359-81), Defense Contract Administration, Services Region Atlanta, February 2-6, 1981.

29) "NY Workers' Compensation Board Rules Cataracts Caused by VDTs," *VDT News*, January 1985. Also see "Pink-Collar Blues" in note 24.

The biological frequencies in our "audacious" chart (p. 83) came from four sources: Lerner (note 6) and Sharma (note 13), plus two unpublished papers: William Von Bise, "Extremely Low Frequency Radio and Magnetic Signals — New Biologic Cues in the Pacific Northwest Environment?" (1980, available through Tecnics Research Laboratories — see note 14) and Hana Pafkova, "A Study of the Embryonic Effect of an Electrostatic Pulsed Field," 1980; translated by Dr. P. Petrik of Alberta, Canada; available through Canadian Centre for Occupational Health and Safety (see "Addresses" above).

Another unpublished paper, although it does not specifically cover ELF in depth, suggests that the waveforms that produce biological effects are very different from the waveforms produced by VDTs. The paper: Arthur W. Guy, "Health Hazards Assessment of Radio Frequency Electromagnetic Fields Emitted by Video Display Terminals," 1984. We received our copy from the American Electronics Association, 2670 Hanover Street, Palo Alto, CA 94303.



Computer swap meets are growing in popularity and sophistication. Merchandise will be varied and include anything from back copies of magazines to complete computer systems.
—Before You Buy a Used Computer

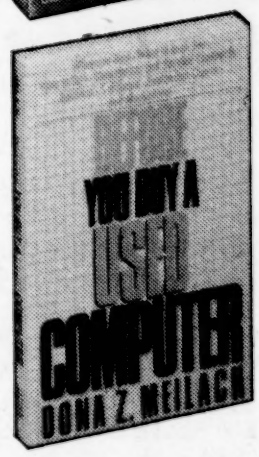
The Skeptical Consumer's Guide to Used Computers • Before You Buy a Used Computer

ART KLEINER: Computers don't wear out or break easily. They obsolesce. Thus, though it may not run the latest techno-status software, a used 1983 machine will still process your words fine, and could be the best way to break into computering. After all, prices drop fast, and someone else has already gone through the grief of setting the thing up. Anyone buying a used computer will have three basic questions: What should I get? What should I avoid? Where do I look?

To answer the first two questions, read ***The Skeptical Consumer's Guide****. It walks you down the list of computer companies as if they were dealers on auto row, and interprets each one's carnival spiel for you. A beginner could avoid some serious errors here — the CompuPro or the Workslate, for instance (for different reasons). This is that rare beast, a charming computer book, but it unfortunately skimps on the section on where to look after you narrow your list.*

Hence you need ***Before You Buy a Used Computer****. Skip to page 55 ("Finding Sources for Used Merchandise") and read to the back. It's all search strategies. The chapter on auctions alone could save you hundreds of dollars. This is obviously a much more hurried, less painstaking book.*

Sorry, I must recommend both. But once you buy your used computer, you can always sell these books to someone else, right? As a used-computer owner you'll need Henry Beechhold's ***Plain English Repair and Maintenance Guide****, since you won't be getting a warranty.*



The Skeptical Consumer's Guide to Used Computers
Ed Kahn and John Bear
1985; 306 pp.
$10.80
postpaid from:
Ten Speed Press
P.O. Box 7123
Berkeley, CA 94707
or Computer Literacy

Before You Buy a Used Computer
Dona Z. Meilach
1985; 159 pp.
$13.55
postpaid from:
PCB
One Champion Avenue
Avenel, NJ 07001
800/526-4264
or Computer Literacy

•

Older Apples were great stuff in their day, and will do almost everything the newer ones will do, but . . .

- the old keyboards are not as good.
- memory expansion capability, while nice, is not as good as having more memory in the first place.
- the old display (40 columns vs. 80) can lead to odd software compatibility problems.

The newer Apples will run practically all the old software, and more to the point, they will run programs developed since 1983. They will be found with 128K RAM and 80-column display (the IIc invariably, IIe usually). They cost less brand new than most people paid for the old II's or II+'s; in December 1984 a IIe with one drive and a monitor cost $1,150, compared to $1,950 for an analogous II+ system in December 1982. This is an exceptionally clean example of the "Why Mess Around? Principle." If someone is giving you his old expanded II + as a gift, you may consider accepting it with an eager grin, but we cannot recommend shelling out any serious money for it, fine machine that it still might be.

—The Skeptical Consumer's Guide to Used Computers

•

Carry a copy of a magazine or newspaper with the merchandise advertised so you can compare prices.

Don't think that every swap meet has only good buys. Many dealers discover they can sell new merchandise at the regular price; sometimes over regular price because people are conditioned to think that swap meets spell bargains.

•

At a computer auction, the items may not be plugged in and working, especially if this poses elecrical connection and potential power problems. Neither should you expect people on the auctioneer's staff to know about or offer advice on the merchandise. If you persist, and bring along your own electric cord, you can usually get permission to plug in an item and try it. (Take along compatible software, too.) If it performs as it is supposed to, you are within safe boundaries. On large equipment, some provisions may be available for testing.

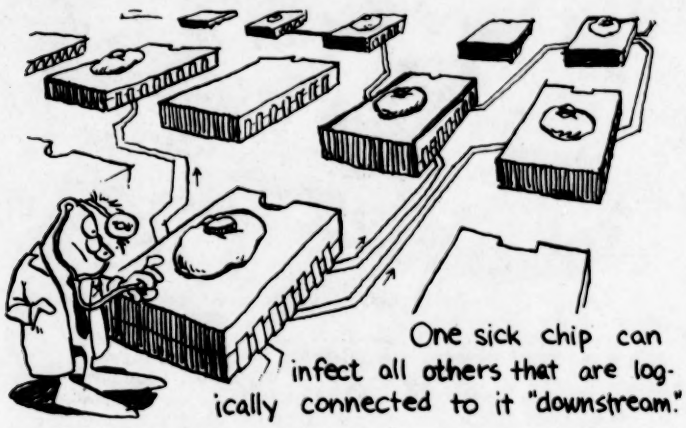
When a microcomputer is plugged in and it seems to work, thats 95 percent of the battle. Occasionally, a bad memory chip will appear. A computer's diagnostics routines will detect such problems; but one must know how to implement and read them. (See Chapter 5, page 98.) Disk drives may be the first components to wear out but they can be easily replaced. A printer's gears can be changed. Modems will only give out if they are dropped or otherwise abused.

—Before You Buy a Used Computer

Computer Classified Bluebook

JAMES STOCKFORD: What's a used computer worth? This 130-page quarterly combs the want ads across the nation and compiles the results. Listings are given for the common configuration of each of 500 different micros and 300 different printers. No advertising, no bias.

Computer Classified Bluebook
Jerry Nims, Editor
$70/year
(4 issues) from:
Computer Classified Bluebook
P. O. Box 3395
Reno, NV 89505

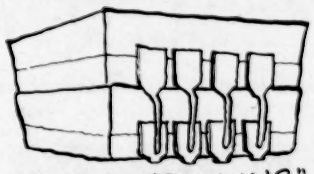


The Plain English Repair and Maintenance Guide for Home Computers

STEWART BRAND: For fiddling with your hardware, get this cheerful, excellent guide. Detecting a problem in your mysterious computer and fixing it is a coming-of-age, a departure from helplessness.

LEVI THOMAS: It's a great book to own even if your computer never breaks down. The technical jargon of electronics and computer repair is translated into something we non-techies can grasp, a sort of folk-wisdom shop sense that explains "the why and wherefores below the surface." Step-by-step tutorials walk you through what you need to know for simple repairs and maintenance as well as how to modify your home computer and build some add-on gadgets, like a null modem for hooking two computers together, or an audio monitor.

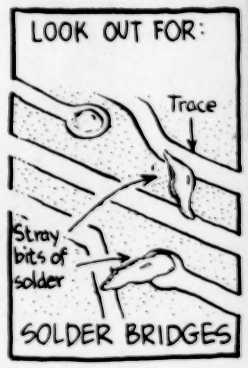
The Plain English Repair and Maintenance Guide for Home Computers
Henry F. Beechhold
1984; 265 pp.
$16.45
postpaid from:
Simon & Schuster
Attn: Mail Order
1230 Avenue of the Americas
New York, NY 10020
800/223-2348
or Computer Literacy


"PIGGYBACKING"

•

Substitution of ICs without removing originals.
If you suspect that a chip is defective, you can simply press another of the same type over it. This is called "piggybacking" (big surprise!) and is a handy troubleshooting technique if you have a stock of chips on hand. Here's how to do it:

a. Turn off power.
b. Carefully bend the new chip leads in slightly so that each will contact its mate on the original chip.
c. Orient the chip with pin 1 to match pin 1 on the original.
d. Press the chip down over the original, making absolutely certain that all pins are "mated" and that none is touching any other.
e. Power up the computer and test for proper functioning.



Guide to Electronics In The Home

*J. BALDWIN: The more antiquated among us sometimes find it difficult to deal with things electronic. Which devices are useful? Which of those are best? What does one look for — how does one judge? **Consumer Reports**, at its best here, explains it all as it reviews home computers, TVs, hi-fis, radios, tape decks, phones, and alarms. As is their custom, the Consumers Union folks don't comment on every model of every brand. They make up for this by educating you in the basics so you can, for instance, make sense out of specification sheets and salesman hype. This is the best general introduction to electronic gadgetry this side of the nearest fourteen-year-old.*

•

There's no extra benefit in using expensive tapes in portable cassette recorders. They lack the electronic refinements necessary for getting the best out of a tape. Bargain-priced tapes, however, could increase the risk of an exasperating tape tangle or cassette misfit. You probably won't go wrong if you follow a middle course and buy the lowest-priced brand-name tape available. CU's engineers recommend sixty- or ninety-minute ferric (Type 1) tape.

•

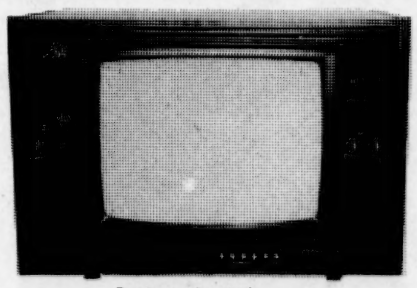
Consumers Union's electronics engineers believe that people who want a good stereo system need not buy only top-of-the-line components. In their view, a low-priced high-fidelity performance system can be put together for as little as $570 and should cost you no more than about $860 (at discounted prices).

	List price	Store A	Store B
AVID 60ab (pair)	$240	$160	$230
AKAI AA-R22	$250	$180	$199

Avid 60ab

Akai AA-R22

Noteworthy features on top-rated 19-inch set



Built-in FM radio with up to six presettable stations.

In the rear: Jacks to link TV with home computer or other video device.

Channel selector lets you tune all over-the-air stations and up to 57 cable channels.

Set, with two speakers, delivered sound quality that CU considered quite good.

Front-panel controls for adjusting the picture. (Some other sets have only a limited one-button control.)

Mitsubishi CS1983: $790

Consumer Reports Guide to Electronics In The Home
by the Editors of Consumer Reports Books
with Monte Florman
1984; 224 pp.
$13.95
postpaid from:
Little, Brown & Company
200 West Street
Waltham, MA 02254
or Whole Earth Access

The Amphibious Hiking Sandal

JOE KANE: Grand Canyon river guide Mark Thatcher has modified the standard flip-flop or thong or whatever you call them with an adjustable Velcro ankle strap that locks your heels in. Add a strong arch support and a bottom that will grip granite in four feet of rampaging creek and you've got a hell of an outdoor foot tool. And if you really miss the old style flip-flop, you can reverse the ankle strap into a "non-use" position.

Teva Sandals

$23-$27 postpaid

Information **free** from:

Teva Enterprises
P.O. Box 968
Flagstaff, AZ 86002

Soft nylon strap assembly.
Fast and easy velcro strap fastens in front for slip-on convenience.
Cushioned neoprene upper sole.
Patented arch support.
Rugged "Terra Grip" all terrain sole. (also available with deck sole)

Designed for safety and durability. Proven by professional river guides to withstand hiking and rafting in the Grand Canyon. Excellent recreational sandal in or out of water. Reversible ankle strap provides comfortable thong option for everyday use. Available in full range of sizes and colors; unconditional 90-day guarantee.

S — Husky.
12" x 10" x 3." $20.

M — Malamute.
14" x 11" x 3½." $30.

L — Newfie.
16" x 14" x 5." $35.

Igas Island Company

(Finely Crafted Gear for Forest Travellers)

Catalog **free** from:
Igas Island Company
P.O. Box 204
Orono, ME 04473

Igas Island Outdoor Gear

ANNE MICHALEC-FINLAYSON: We've had dealings with these people for several years, and aside from being slightly eccentric and occasionally hard to reach (they're closed on the day of the full moon) we've been supremely pleased with their work. Their designs follow the nature of our bioregion, and the management must be followers of Schumacher's "small is beautiful" principle, for they apparently refuse to take wholesale orders and have no dealers. Interesting in this day of solar-powered camping blow-driers and Gortex sunglasses and bras.

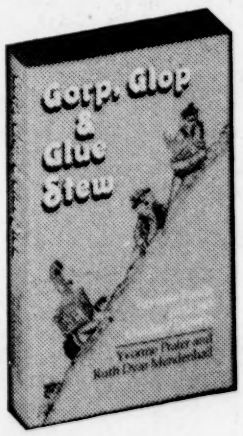
J. BALDWIN: They also do custom work and design, charging extra only for materials and labor — a very rare service these days.

Gorp, Glop & Glue Stew

J. BALDWIN: Here, no less than 165 hardened backpacking veterans tell us how to brew up their favorite meals. To add credibility, a factor sometimes missing from trail-food books, several of the contributors are the authors of competing trail-food books — a nice touch. The contributors also give a short resume of their experience (that is, why you should have heard of them) and a brief, often very funny history of the recipe. There's a good feeling of confidence to it all. It's the book I now use.

Gorp, Glop & Glue Stew
Yvonne Prater and Ruth Dyar Mendenhall
1982; 204 pp.

$7.95
postpaid from:
The Mountaineers
306 Second Avenue West
Seattle, WA 98119
or Whole Earth Access



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ALASKA GLOP

3 to 4 cups water
Noodles or rice
Hard sausage, cut up (or freeze-dried meat)
Freeze-dried vegetables to taste
Dry onion, minced or chopped
1 package gravy mix (any flavor)
Salt, pepper, oregano, thyme (to taste)
Margarine
Cheese, chopped or slivered
Dried egg mix or freeze-dried eggs

Heat water. Add noodles or rice (if instant or minute rice is used, add toward end of cooking period). Add meat, vegetables, gravy mix, flavorings, and margarine. Boil till all ingredients are tender; stir occasionally to keep mix from sticking to bottom of pot. Shortly before serving stir in enough cheese and powdered egg to thicken. Serves 2.

This glop really sticks to the ribs. The noodles or rice provide the bulk. The eggs and cheese thicken it and, with the margarine, turn it into a gourmet meal. Sausage is delicious and provides some of the extra fat needed in cold climates. The desire for fat in the diet determines the amount of margarine used. On climbs longer than one-and-a-half or two weeks, it isn't uncommon for two people to need up to a quarter of a pound per meal. We used to enjoy this glop on Alaska climbing trips, and I still use it on my mountain outings in the Pacific Northwest.

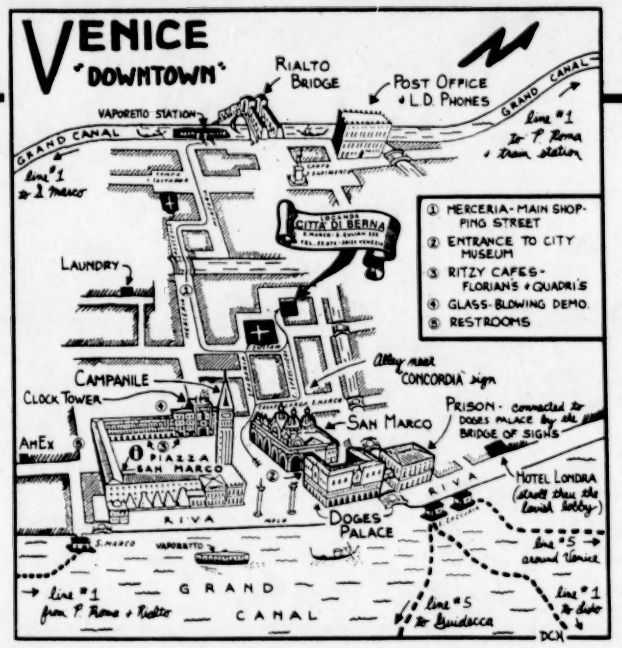
—Jerry Johnson
North Cascades, avalanche rescuer

•

I pay very little attention to cooking on mountain trips and always prefer to travel light and to keep it simple. A like-minded climbing friend tells this story on me. He asked what kind of food to get, and I told him to get what he wanted but to keep it simple and lightweight. He picked up fifty-two instant breakfast mixes — all egg-nog flavored. We consumed twenty-four of these per person and climbed Rainier via the Mowich Face on the liquid diet with no problem. We did have some variety, though: we had our instant food hot for breakfast and dinner, and cold for lunch and snacks.

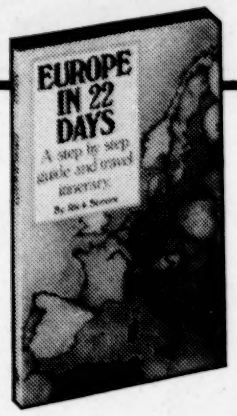
— Jim Wickwire, twice K2 expeditionist

"Yes, you seem to have packed the eggs well enough...."



Europe in 22 Days

KEVIN KELLY: This is the do-it-yourselfer's guide to a delightfully insane idea — seeing Europe in three weeks. Don't ruin this crazy idea by going with a tour group.



Europe in 22 Days
Rick Steves
1985; 103 pp.
$6.45 postpaid from:
John Muir Publications
P.O. Box 613
Santa Fe, NM 87504
or Whole Earth Access

With this book's cheerful itinerary in hand, you don't get to see all you want (how could you?), but the popularly-demanded Eiffel Tower, Sistine Chapel, German beerhalls, and Rhine castles are all here, along with offbeat Italian hilltowns, Venice, and Rivieran seaports. It's designed for budget travelers as either a car or train trip. (For a couple, a three-week car rental costs about the same as first-class rail passes.) The logistics of bus connections, museum hours, dinner schedules, etc., are realistically tuned to fit into 22 days, and have been tested by hundreds in the last 12 years. It really works if you are mad enough to want a whirlwind tour.

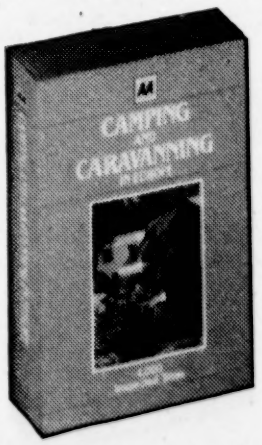
Europe Map

KEVIN KELLY: The best buy for a road map of all Europe. (The top edge of North Africa and the western corner of Russia come as a bonus.) Shows the main motorways, major roads, and car-ferry routes. Impeccable Swiss cartography crams in topographical shading, mileage logs on the roads, rivers, and readable town names. It self-folds into its own cover which significantly extends its working life.

Europe Map
(Physical Edition)
Kummerly and Frey, 1984
$8.95 postpaid from:
Nomadic Books
401 NE 45th Street
Seattle, WA 98105
or Whole Earth Access

Camping and Caravanning in Europe

KEVIN KELLY: Published by AA, the British equivalent of the AAA, this bargain buy methodically lists over 4,000 inspected car-camping sites in Europe, omitting the British Isles. Each entry comes with directions and an extremely thoughtful capsule description of the surroundings (shade, no shade; grass, no grass), plus lots of the usual little symbols denoting the facilities available. You can get a fair idea of what to expect — with the dollar these days what you get is a good deal. There are road maps in the back showing where the campsites are, and little goodies like an appendix of mountain road passes that catalogs their steepness, crookedness, and when they are free of snow. The essentials of motoring on the continent are handled concisely, making this indispensable for driving through Europe.



Camping and Caravanning in Europe
Penny Hicks, Editor
1983; 480 pp.

$13.95
postpaid from:
Nomadic Books
401 Northeast 45th Street
Seattle, WA 98105
or Whole Earth Access

GREVENKNAPP
Map 63 A3
Grevenknapp ☎ 63141
An extensive, slightly sloping grassy site on the edge of a large woodland area on the Helperknapp-Berg.
Approach from Mersch via N8 to Grevenknapp turn-off. Continue to site via CR115.
May–Sep.
5 HEC H lau 101 pitch 370

27 GATE FIVE ROAD SAUSALITO CA 94965

WELL-TRAVELED BOOKS

by Scott Thybony

WORD HUNGER. It's a real thing. It happens. I was once on an extended mountaineering trip traveling light. I couldn't even think about lugging along the extra weight of a book. But after a few days I was not only reading, but enjoying anything with print on it — map margins, food labels. The clincher was the fine print on my backcountry permit. The fourth time through the list of regulations I realized I had gone too far. When I returned, I decided, I'd have to find a book to take on my next trip. And it would have to be the right book.

There are lots of ways to judge a book. By the cover, by the price, by the position on the best-seller list. I once even met an anarchist book dealer who judged a book solely by its weight. The heavier a book, the higher he priced it. Unfortunately he couldn't pay his bills by the same method and went out of business.

But I needed to find a book that was not only worth the weight, but one that was going to get read and not just stay lost in the bottom of my pack. So I decided to find out what others had read during periods of isolation — books that had hung in there and gone the distance during extreme situations.

Back in town I began digging into expedition accounts, war memoirs, the journals of exiles — wherever hard travel and solitude had been the literary critic. Here's what turned up:

Paradise Lost *by John Milton.*

Although Jack London had learned the art of traveling unencumbered from his tramping days, he decided to pack a number of books into the gold fields of Alaska. His favorite was ***Paradise Lost.*** He once loaned this to a fellow prospector who wasn't able to get past the first few pages. When the prospector told London he just didn't like poetry, London was determined to prove him wrong. He took off into the winter night and walked down the Yukon River to find a cabin with a copy of Kipling's ***The Seven Seas***. When London returned he was vindicated. The prospector read it through at one sitting. ***Paradise Lost*** was also a favorite of Napoleon.

Paradise Lost by J. Milton: $2.95 postpaid from Airmont Publishing Company, 401 Lafayette St., New York, NY 10003.

The Brothers Karamazov
by Fyodor Dostoyevsky.

Before air transport became widespread in the Himalayas, expeditions took weeks to pack into base camp. Since all equipment was carried by foot, anything without a clear purpose was left behind. Despite its bulk, ***Karamazov*** made it into the mountains where it gained a reputation among climbers as the ideal book to wait out a storm with at 25,000 feet. It was even carried by the first climbing team to put a man on top of Everest.

The Brothers Karamazov by F. Dostoyevsky: $3.50 postpaid from Airmont Publishing Company, 401 Lafayette St., New York, NY 10003.

I read most of the complete works of Dostoyevsky in crowded public buses while traveling across distant continents. Only the feverishly intense worlds of ***The Idiot*** *could entice me from the exotic parade out the bus window.*

The books collected here by Scott Thybony have been tested by the extreme conditions of travel: arduous itineraries, no excess weight, occasional solitude. Scott Thybony (part-time river guide, part-time writer) suggests these as a prompt for readers to tell us what they found traveled well. "What is read by cross-country hot-air balloonists? What is read while awaiting trial in a Turkish jail? What is the favorite book among terminal cancer patients?" Write us about the book that got you through your journey.

—Kevin Kelly

Le Morte d'Arthur *by Thomas Malory.*

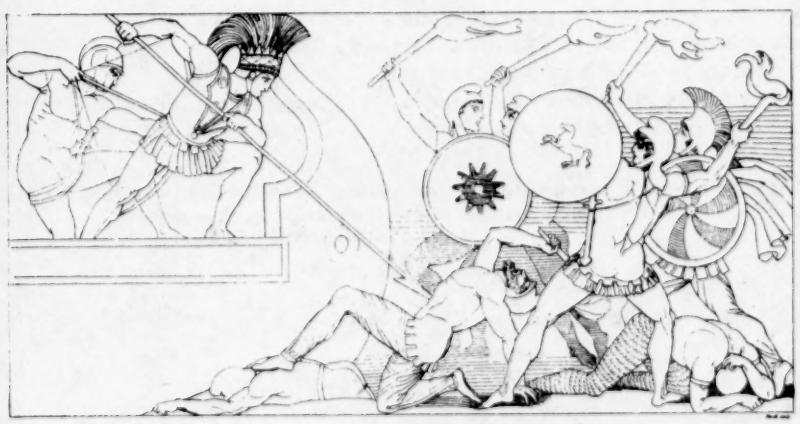
T. E. Lawrence was a master at traveling light. His success in the Arabian Desert war depended on it. When preparing for a raid, he'd load his camel with 45 pounds of flour to last six weeks and would carry only one pint of water for use between wells. But throughout the war he also carried the ***Morte d'Arthur, The Oxford Book of English Verse***, and the works of Aristophanes in the original Greek.

Le Morte d'Arthur by T. Malory: $5.50 postpaid from New American Library, 120 Woodbine St., Bergenfield, NJ 07621.

The Iliad *by Homer.*

When Napoleon was exiled to the island of St. Helena, he became an obsessive reader. The floor of his room was scattered with books he'd quickly read and discarded. One book that did manage to stay on his desk was the ***Iliad***, which he considered the best book ever written. Twenty-one centuries earlier, Alexander the Great had the same opinion. He carried Aristotle's special edition of the ***Iliad*** with him during his invasion of Asia. It was said that Alexander always slept with two things under his head. One was a dagger, the other the ***Iliad***. And it seems that military men weren't the only ones taken with the ***Iliad***. Even Thoreau brought a copy with him to Walden Pond.

Homer's ***Iliad***: $2.25 from Airmont Publishing Company, 401 Lafayette St., New York, NY 10003.



The Enchiridion *by Epictetus.*

This was originally intended as a manual for the Roman foot soldier by the Stoic, Epictetus. The ***Enchiridion*** became a major inspiration to James Stockdale, the navy pilot and Medal of Honor winner, during his eight years of imprisonment in North Vietnam.

Epictetus' ***Enchiridion***: $4.56 postpaid from Bobbs-Merrill Company, 4300 W. 62nd St., Indianapolis, IN 46268.

The Oxford Book of English Verse
edited by Arthur Quiller-Couch.

Carried by T. E. Lawrence in the desert, it's also been a favorite among solo blue-water sailors like Tristan Jones. An exception was Sir Francis Chichester, noted for his self-reliance, who only carried two books besides first aid and navigation references on his solo circumnavigation. Both were written by himself.

The Oxford Book of English Verse, edited by Arthur Quiller-Couch, is currently out of print, but can be found in used-book stores.

The New Oxford Book of English Verse: 1250-1950, edited by Dame Helen Gardner, is available for $29.95 postpaid from Oxford University Press, 16-00 Pollitt Drive, Fair Lawn, NJ 07410.

THOMAS CAMPION

Integer Vitae

THE man of life upright,
Whose guiltless heart is free
From all dishonest deeds,
Or thought of vanity;

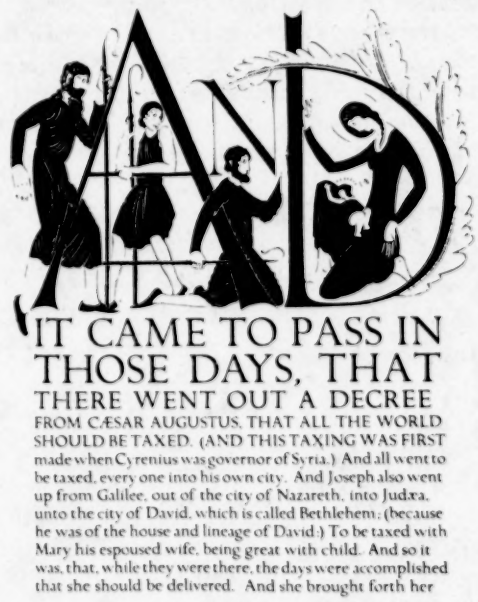
The man whose silent days
In harmless joys are spent,
Whom hopes cannot delude,
Nor sorrow discontent;

That man needs neither towers
Nor armour for defence,
Nor secret vaults to fly
From thunder's violence:

He only can behold
With unaffrighted eyes
The horrors of the deep
And terrors of the skies.

Thus, scorning all the cares
That fate or fortune brings,
He makes the heaven his book,
His wisdom heavenly things;

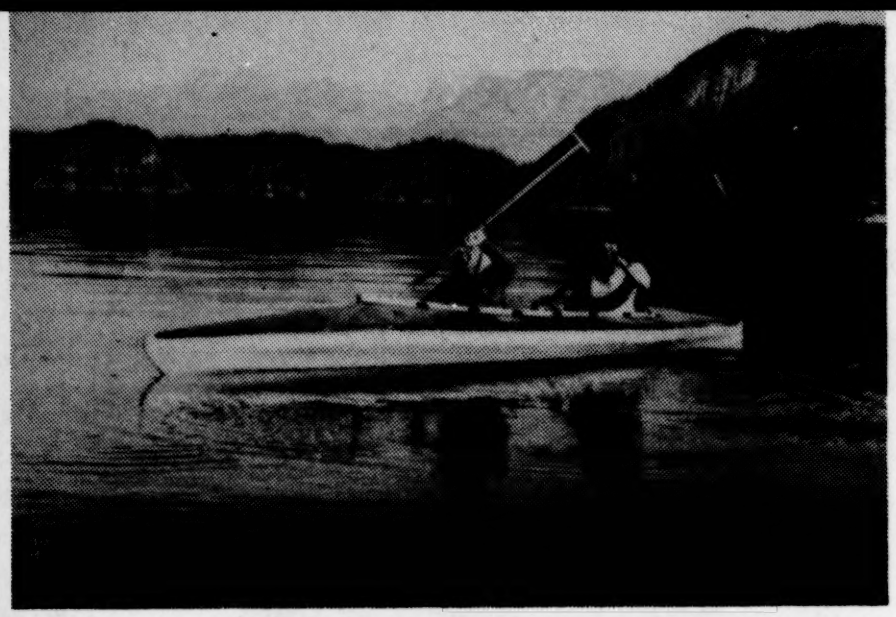
Good thoughts his only friends,
His wealth a well-spent age,
The earth his sober inn
And quiet pilgrimage.


AND
IT CAME TO PASS IN
THOSE DAYS, THAT
THERE WENT OUT A DECREE
FROM CÆSAR AUGUSTUS, THAT ALL THE WORLD
SHOULD BE TAXED. (AND THIS TAXING WAS FIRST
made when Cyrenius was governor of Syria.) And all went to
be taxed, every one into his own city. And Joseph also went
up from Galilee, out of the city of Nazareth, into Judæa,
unto the city of David, which is called Bethlehem; (because
he was of the house and lineage of David:) To be taxed with
Mary his espoused wife, being great with child. And so it
was, that, while they were there, the days were accomplished
that she should be delivered. And she brought forth her

The Bible

All-time favorite among soldiers, the ***Bible*** has been credited with stopping bullets on numerous occasions in battle. But once one of Jeb Stuart's cavalrymen was saved when a bullet was deflected by a copy of ***Tristam Shandy*** tucked in his shirt. War has often been seen as a moral encounter by its participants. This was true with Douglas MacArthur, who carried his favorite book, Dostoyevsky's ***Crime and Punishment***, throughout the island war in the Pacific.

New International Version "Award" ***Bible***: $8.95 postpaid from Zondervan Publishing, Direct Marketing, 1420 Robinson Rd. SE, Grand Rapids, MI 49506. ■



Desolation Sound; Mount Denman in distance.
—Sea Kayaking

Kayak Touring

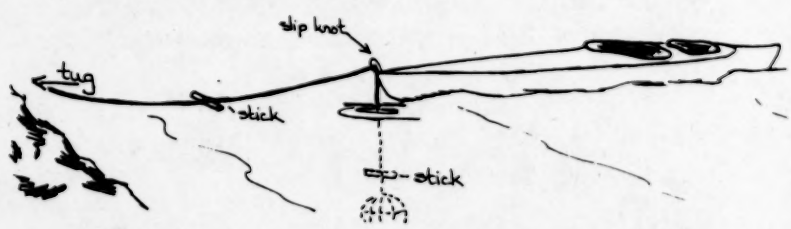
WAYWARD WATSON: Ever since I double-bladed a fast, spacious, and ultra-safe touring kayak across Canada's Northwest Territories in 1968, I've wondered why tippy open canoes powered by inefficient single paddles remain the standard craft for wilderness cruising. With iconoclasm now rampant in high-tech paddlecraft design, my suspicions are confirmed: open canoes have largely been riding the current of ancient birchbark tradition, sped along by simple public ignorance of the many advantages of today's new wave of big expedition kayaks (not the tiny rocker-bottomed slalom rigs you see bobbing down whitewater currents).

Four fine books are now arrived to redress the matter. The first, John Dowd's ***Sea Kayaking*** *(**NWEC**, Second Edition, p. 434) remains the classic statement of major-league touring kayak design and technique. (You can adapt Dowd's marine cruising principles to big water anywhere.) Three more recent books effectively stake out their own aquatic turf. William Sanders'* ***Kayak Touring****, the most general of the three, addresses the use of varied kayak designs (slalom, touring, folding, rigid, etc.) to fit varied inland touring (swamps, whitewater, big reservoirs, lake chains), with a brief nod to the booming sport of saltwater cruising. Sanders also casts a refreshingly suspicious eye on sophisticated kayak camp gear — score one for K-Mart tents and old-fashioned air mattresses.*

The Coastal Kayaker *by Randel Washburne and* ***Sea Kayaking Canada's West Coast*** *by John Ince and Hedi Kottner obviously treat marine touring more directly. Of the two, Washburne is much the more complete on technique, equipment, and the meditative poetry of sea paddling in general and touring the North Pacific in particular. Ince and Kottner on the other hand give just a few chapters and appendices to methods and gear, but intelligently cover twenty specific coastal tours around huge Vancouver Island, several points north, and the isolated Queen Charlotte Islands.*

If you want to kayak-tour inland waters, read Sanders. If you mebbe want to paddle seawards, consult Dowd on hardcore technique and Washburn on how and why the North Pacific in particular. If you're actually gonna go there, put John and Hedi in the front cockpit.

John Dowd's new quarterly, ***Sea Kayaker****, looks to be an auspicious pioneering journal — a tad rough-hewn by devoted marine pioneers, but probably headed for slicker editorial cruising just ahead. Covers stuff like kayaking history, coexisting with whales, marine safety, Australian circumnavigation, kayak launching and anchoring, boat manufacture, paddlebook reviews, ads for fluid-state-of-the-art craft, et other good ceteras. Definitely a siren mystique in paddle-touring the open sea (one rich enough, I suspect, to welcome even us more "gentle adventurers," as my wife calls herself in sundry moments of outdoor terror). Sea kayaking is fairly exploding along North American coasts. Under reader prodding, grizzled veteran Dowd promises more entry-level pages to this burgeoning army of beginners. Meanwhile there's a nice rawboned in-group feeling to this mag, charter as it were of the Baidarka Brotherhood. Damn sure worth at least a year's spectator subscription!*

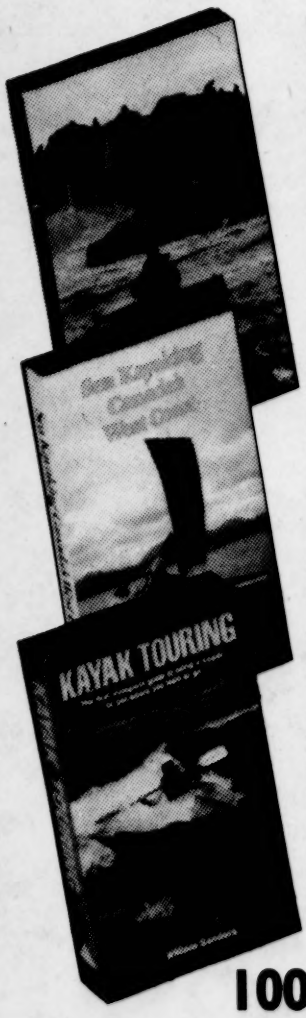


Easy anchoring: this kayaker's version of the Siwash anchorage eases retrieval, as the anchor is lifted toward the boat instead of being dragged along the bottom.
—Sea Kayaker

•

Remember, the packing rule is: bulky and light to the rear, dense and heavy at the front, and weight concentrated as much as possible near the bottom and centerline. This would mean you'd probably cram your sleeping bag in first, shoving it all the way to the back, and follow it with light clothing such as insulated vest, parka, or whatever you're carrying. Clothes — the few you carry — would go in next, and then things like food, stove and various tools. Books are very heavy for their size and go on the bottom, in the middle. Things like socks and your rolled-up air mattress can go along the sides of anywhere there's space. —*Kayak Touring*

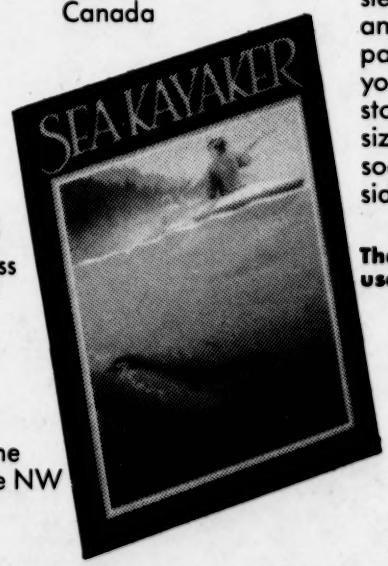
The Mariner Self-Rescue, developed by Matt Broze of Seattle, uses a paddle and empty water jug as a stabilizing outrigger.
— The Coastal Kayaker



The Coastal Kayaker
(Kayak Camping on the Alaska and B.C. Coast)
Randel Washburne
1983; 214 pp.
$11.95
postpaid from:
Pacific Search Press
222 Dexter Avenue N.
Seattle, WA 98109
or Whole Earth Access

Kayak Touring
William Sanders
1984; 254 pp.
$15.45
postpaid from:
Stackpole Books
P.O. Box 1831
Harrisburg, PA 17105
or Whole Earth Access

Sea Kayaking Canada's West Coast
John Ince and
Hedi Kottner
1982; 240 pp.
$10.45
postpaid from:
Raxas Books
1103-207
W. Hastings Street
Vancouver, B.C.
V6B 1H7
Canada



Sea Kayaker
John Dowd, Editor
$8/year
(4 issues) from:
Sea Kayaker Magazine
6327 Seaview Avenue NW
Seattle, WA 98107

One Day Celestial Navigation

J. BALDWIN: What if you miss Hawaii? It's just that sort of fear that drives folks to involve themselves with the traditional weighty volumes and complex worksheets that make Hegel seem simple by comparison. But you needn't fret. This skinny book gives you what you need to know to fetch Diamond Head, though you may have to do a bit of unprofessional dog-legging to do so. You'll be successful, which is more than you can be sure of using more complex techniques you don't fully understand. The methods shown here are simple enough, but you will have to make that "one day" a disciplined one. Two people learning together will help, and that'll give you the advantage of having more than one person aboard with navigation skills — a useful safety factor. The author also takes you through the steps for checking the accuracy of the ship's compass, and what to do if your clock stops. If you're going out of sight of land, all this is stuff you need to know. This book is about as simple a course as you're likely to find.

•

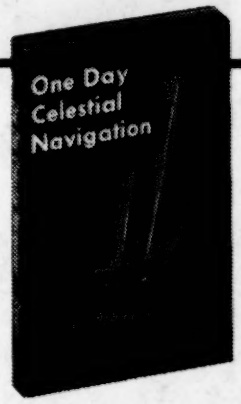
STRATEGY

If you can *only* obtain an accurate latitude, you must modify the approach to your island. You sail down (or up) to the latitude of the island. You intentionally miss it to the west (or east) by sixty miles. This is a dog leg, or "landfall" technique. Upon arrival at the island's latitude you will know in which direction to turn to arrive at the island. You will not know exactly how far you are from the island, but you will be *certain to hit the island.*

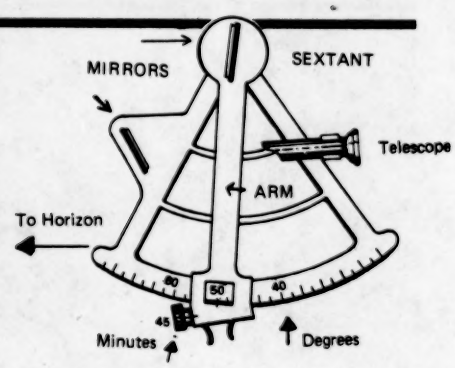
•

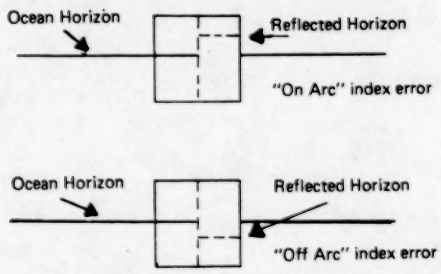
As you continue to shoot, the readings should peak and then start decreasing. You must continue to shoot until you know for certain that you have shot the sun at its peak.

If the sun continues to climb, you have incorrectly calculated high noon. If this happens, continue shooting and use the peak value, whenever it occurs. You will still obtain your correct noon latitude. If the sun's height is decreasing as you begin your readings, you have made a muck of it and will have to wait until tomorrow to make your latitude shot. Enter your peak value in the log and complete your calculations as previously described. It is a good idea to again check the index error after you have completed your shooting sequence.

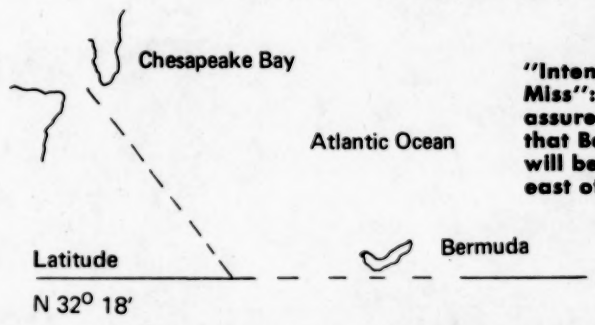


One Day Celestial Navigation
Otis S. Brown
1984; 133 pp.
$6.95
postpaid from:
Liberty Publishing
50 Scott Adam Road
Cockeysville, MD 21030
or Whole Earth Access





The view of the horizon as seen through the telescope of the Sextant. The arm is set for 0 degrees and 0 minutes.



"Intentional Miss": This assures you that Bermuda will be to the east of you.

The Weather Wizard's Cloud Book

J. BALDWIN: The idea is to use clouds and wind direction to forecast the weather. Well, I'll admit that when I attempted to compare one of the many nice color shots of cloud types here to what I saw above me, I had a bit of trouble: there didn't seem to be any strong resemblance. But I took a guess, and my prediction turned out to be right. The author, a self-taught forecaster of some fame, has turned out to be right more often than his satellite-equipped competitors, so we may have something here. In any case, this is an interesting way to sharpen your sensitivity to cloud action; you won't be forced to reduce the sky conditions to "clear" or "overcast" simplicity. Fun and useful.

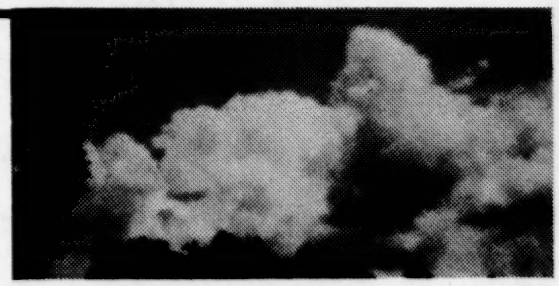
•

Here are a few forecasting tips based solely on the direction of the wind.

When the winds shift rapidly from the northwest to the northeast, or from the southeast to the southwest, back and forth during clear skies or unsettled weather, there will be a change in the existing weather. In such cases, however, there is no way to determine how soon this change will come.

If the wind shifts from the southeast back and forth to the north-northwest during rain, the weather soon will clear.

If the wind shifts from the southeast to the southwest and the skies are clear, chances are good that some precipitation will soon occur.



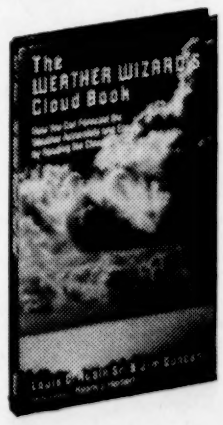
CUMULUS humilis: Fair weather clouds if they show no vertical development. Can build up and develop into cumulus congestus, or cumulonimbus clouds.

In general, fair weather comes when the wind is blowing from the southwest, west, northwest to north, clockwise (or forward).

Unsettled weather usually comes with winds blowing from the north-northeast, east to south.

As a general rule of thumb, remember that any change in surface wind direction usually foretells a change in the weather.

The Weather Wizard's Cloud Book
Louis D. Rubin, Sr.
and Jim Duncan
1984; 71 pp.
$8.95 postpaid from:
Algonquin Books
of Chapel Hill
P.O. Box 2225
Chapel Hill, NC
27515-2225
or Whole Earth Access



If you can't break a world record make up your own.

A photo story by
Ron Jones

The world record for publishing the greatest number of unusual articles in this magazine (six or seven so far) goes to Ron Jones. Among them is a story about a do-your-own-thing high school class that turned themselves into Nazis (CQ #9, p. 132), a story of an unlikely basketball hero (CQ #10, p. 128), a test to rate the competency of your public high school (CQ #41, p. 120), and a tale of growing up with grandma and her mysterious gun (CQ #43, p. 46), all true. His latest world record breaker takes place at the San Francisco Recreation Center for the Handicapped, where Ron works.
—Kevin Kelly

REMEMBER THAT SUMMER EVENING WHEN YOU sat on the stoop and tried to bounce a ping-pong ball off a paddle? And being successful, you declared for one and all that you had broken the neighborhood record, then the national record, and finally the *World Record* for ping-pong bounces. You considered calling Walter Cronkite. Surely there would be a ticker tape parade. Maybe a handshake from the President.

You were worried about what to wear while meeting the President when you noticed your little sister pick up the paddle and ball. She wasn't half bad. (Must have watched when you broke the record.) Then the unexpected. The unimaginable. A new neighborhood record, then a national record. It can't be! She did it! A new *World Record.*

It's hard to feel disappointed when your little sister is hugging you and jumping on your toes. After all, world record holders deserve a hug.

Your sister hands you a paddle and bounces the ball in your direction. Hitting it back and forth. One, two, three . . . a neighborhood record, a national record. Twenty-six, twenty-seven, twenty-eight! A new *World Record!* Nobody will ever beat that!

We already have a *Guinness Book.* It's time for some healthy competition. I hereby propose *The Hilarious Book of Unusual World Records.*

It would include The World's Largest Outdoor Slide, The World's Tallest Inner-Tube Sandwich, The World's Most Unusual Bicycle, The World's Smallest Kite . . .

What I'd hope to demonstrate with these unusual records are examples of play, inventiveness, celebration, and cooperation. The issue is not so much in being number one or the best, but working at being the best. If you can't break a record then make up your own!

Of course I would like readers to consider this folly and join in with World Records of their own. I would like readers to interact in a joyful way with other people — to find simple solutions — to look for accomplishments in everyday activity — to experience a *shared victory.*

World's Longest Tunnel Roll

When a building down the street was being renovated the workers tossed all the debris down a cardboard tube into a smiling dumpster. One day the building was gone and the dumpster was gone. All that remained was that long cardboard tube. I adopted it. Cleaned it. And introduced it to the world of play. It became the World's Longest Tunnel! A Yo-Yo that spins across the floor with human passengers! A slide! A cardboard mountain! A simulated space vehicle!

The current World Record for people rolling inside a sono tube is 35. The distance they rolled (before throwing up) was 135' 6".

So who would be interested in such a challenge?

★ 1,485,012 individuals who have purchased the *Guinness Book of World Records* and become frustrated with challenges that require weighing 942 pounds or eating 942 goldfish.

★ 26,418 park and recreation leaders looking for something to do on a rainy day.

★ 19,741 special education teachers trying to think of physical and social activities that will allow "their" kids to feel successful.

★ 214 Sunday-school teachers seeking activities that prompt cooperation and gladness.

★ 18 cruise ship activity leaders.

★ 2,185 therapists working in hospital, board, and care institutions and old-age homes.

★ 7,646,823 grandparents who remember how enjoyable it is to play parlor games.

★ 1,317 summer camp directors interested in activities that will challenge their campers.

★ 204,000 classroom teachers who want to devise lessons incorporating numbers, record keeping, imagination, and sharing.

★ An unknown number of artists looking for a vehicle to display their wonder and skill.

★ 4,631 activity leaders working with Girl Scouts, YMCA, Salvation Army, Blue Birds, Brownies, 4-H Clubs, and Job's Daughters.

★ Anyone looking for an activity in which anyone can play and everyone can win!

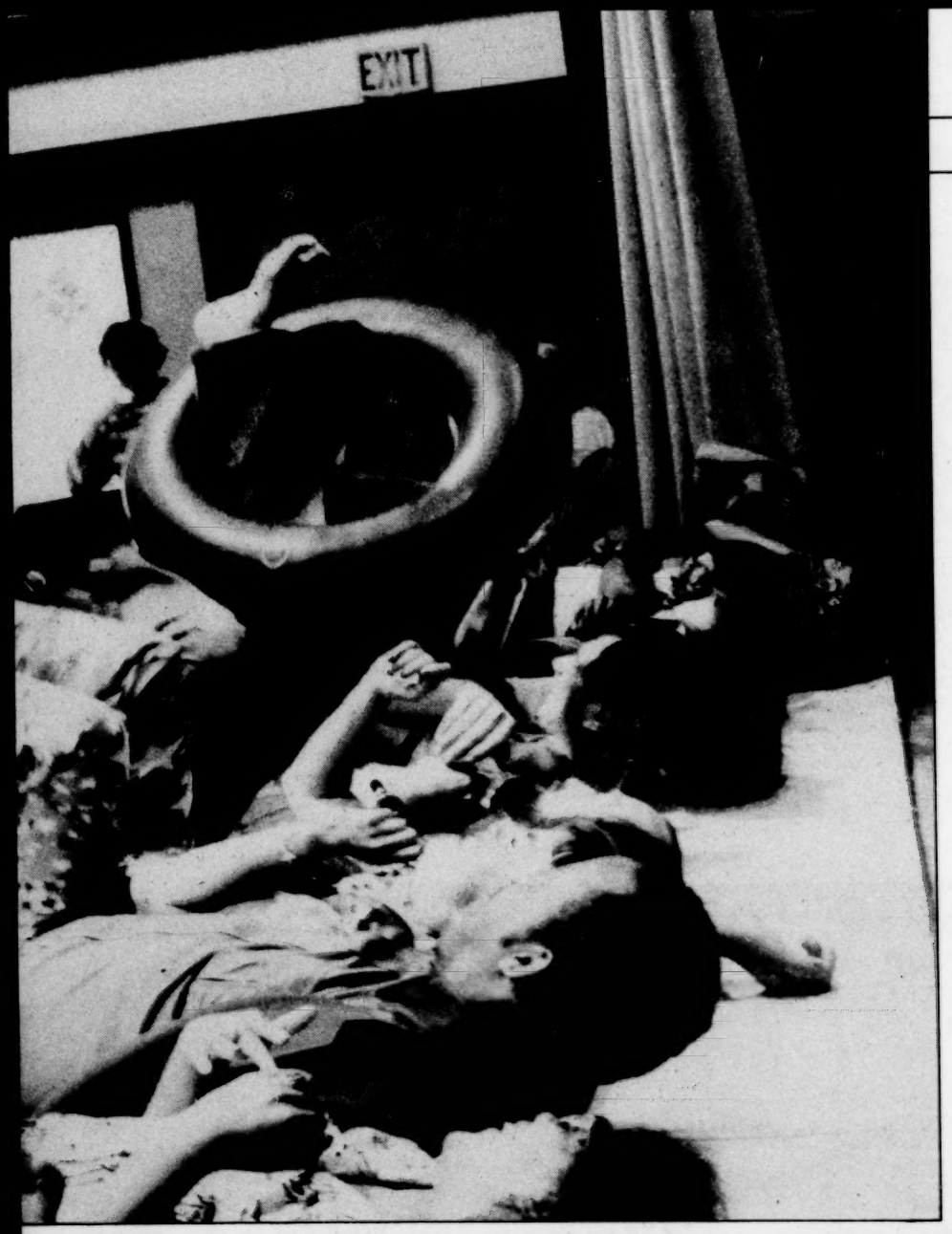
The total projected interest in a *Hilarious Book of Unusual World Records* is 1,463,527,036. Of course that's an unusual World Record!

Longest Inner Tube Hug

Start with two people facing each other — now place an inner tube between them and ask them to hold the tube. That's easy. Now place a second inner tube between the two holders. That's easy. Now squeeze a third tube and a fourth and a fifth, sixth, seventh, eighth . . . . Yes, the people "book ends" have a jellied mass they must try to hold and balance. Belly pushing is an apt description of the technique used to hold more than six inner tubes.

The World Record for greatest number of inner tubes supported accordion style between two people is 17. The World Record for the Longest Hug using one inner tube as a chaperon is nine seconds. Both these records are extremely vulnerable to the East Germans and other Olympic contenders.

27 GATE FIVE ROAD SAUSALITO CA 94965



Longest Human Conveyor Belt

The World's Longest Human Conveyor Belt was created when the World's Largest Human Pyramid collapsed. There we were, lying on the stage bemoaning and laughing about our flattened pyramid. Then someone passed a loose shoe to the person next to him, who passed it in turn to the next person, who — not wanting a lost tennis shoe — continued to pass it on. That's how it started. Joe Azzaro, who was lying at the other end of the stage, saw what was happening and wanted to help. So he started a tube pass from his end. Some people just bumped the inner tube along, others passed it with a loop kick, and some bobbed it with the back of their heads. From this point the game was formalized. We tried passing things along our human conveyor belt using no hands, elbows only, left legs only, and so forth. We passed all sorts of things, from inner tubes to hats, to cardboard boxes, ice cubes, balloons, noises, and teammates. We tried standing up in a spread-leg posture, passing things between our legs (like a center hiking a football). And we tried passing items standing shoulder to shoulder. But the best fun of all and the best exercise in body-part differentiation and movement was that initial human conveyor belt in which all the players were lying flat on the ground. Now, if I could just find my tennis shoe . . .

Most Dressed Person in the World

If you like getting dressed with the help of lots of friends, and can't decide which outfit to wear, then this is the activity for you. Just get a bin of fancy clothes and some friends. Then see who can put on the most duds. This is your chance to be not the best dressed person in the world, but the most dressed person in the world. Start buttoning!

The current record for Most Dressed Person in the World is held by a young woman wearing 56 different pieces of clothing.

First Cardboard Stick-ups

Someone donated a box of cardboard rolls to the center. For several months they sat unused. One afternoon I spilled the box of tubes on the floor and tried a game of pick-up sticks. The idea was a bust. The round shapes of the tubes made them vulnerable to the slightest touch. They rolled all over the place, and no one could pick up one tube without setting off an avalanche of cardboard. I was about to put the tubes away when I noticed several participants suspending a tube with their bodies — much like bridge towers supporting a highway span.

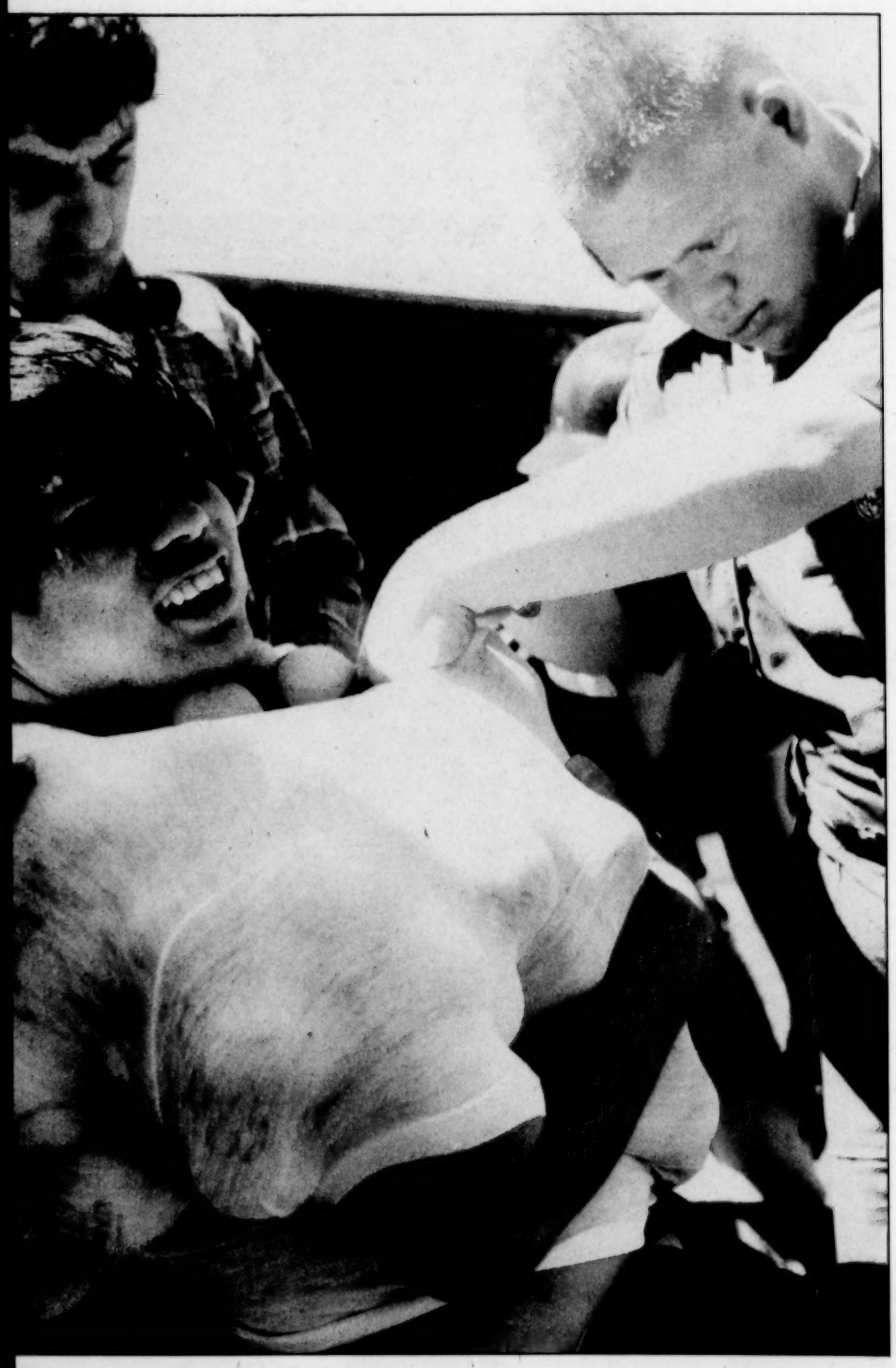
I immediately asked everyone to pick up some tubes and try to stick them against someone else's body — to support as many tubes as possible with body pressure. An instant sculpture of bodies and cardboard was formed. Some people actively fixed tubes in place, others moved their bodies to feel and hold the cardboard connectors. This sculpturing was enjoyable and remarkable for its ability to improve "body image."

As for the World Record, The Greatest Number of Cardboard Tubes Supported by a Group of People is 74.

Most Wrapped T-P Mummies

It came from the camp latrine. Without warning — a white ghostly gauze. It covered everything in its path.

Pending World Record: in ten minutes 16 boxes of TP containing 426 rolls of paper totally covered 121 campers.



Most Tennis Balls Stuffed in a T-shirt

One day I couldn't find the fish net for the Fish Net game. There I was, standing with a box of tennis balls, surrounded by a group of young adults ready to play Fish Net. When I asked if anyone had seen the fish net, everyone answered. They had all seen it in a different place.

I was about to suggest a game of baseball when Harvey Lai offered, "Use my T-shirt." I'm not sure he had the following exploit in mind. As Harvey was attempting to take off his T-shirt, Sal took up Harvey's offer. Sal ran over to Harvey and stuffed a tennis ball into the neck opening. The ball wiggled down the inside of the T-shirt, touching every "tickle bone" in Harvey's body. Well, I had always talked about making up games, and here was the silliest game imaginable — stuffing a T-shirt with as many tennis balls as fabric would allow. It was a neat game. No, neat is not the word. It was an energetic game of pushing, squeezing, helping, laughing, rolling on the ground. We played for an hour. Everyone had a turn. Boys paraded tennis ball breasts and girls flaunted tennis ball muscles. Yes, there is great technique and etiquette even in the game of stuff the tennis ball. Try it!

Oh, I almost forgot. The record number of tennis balls stuffed into one T-shirt (in a minute or so of play) is 126. The T-shirt was a size large Fruit of the Loom.

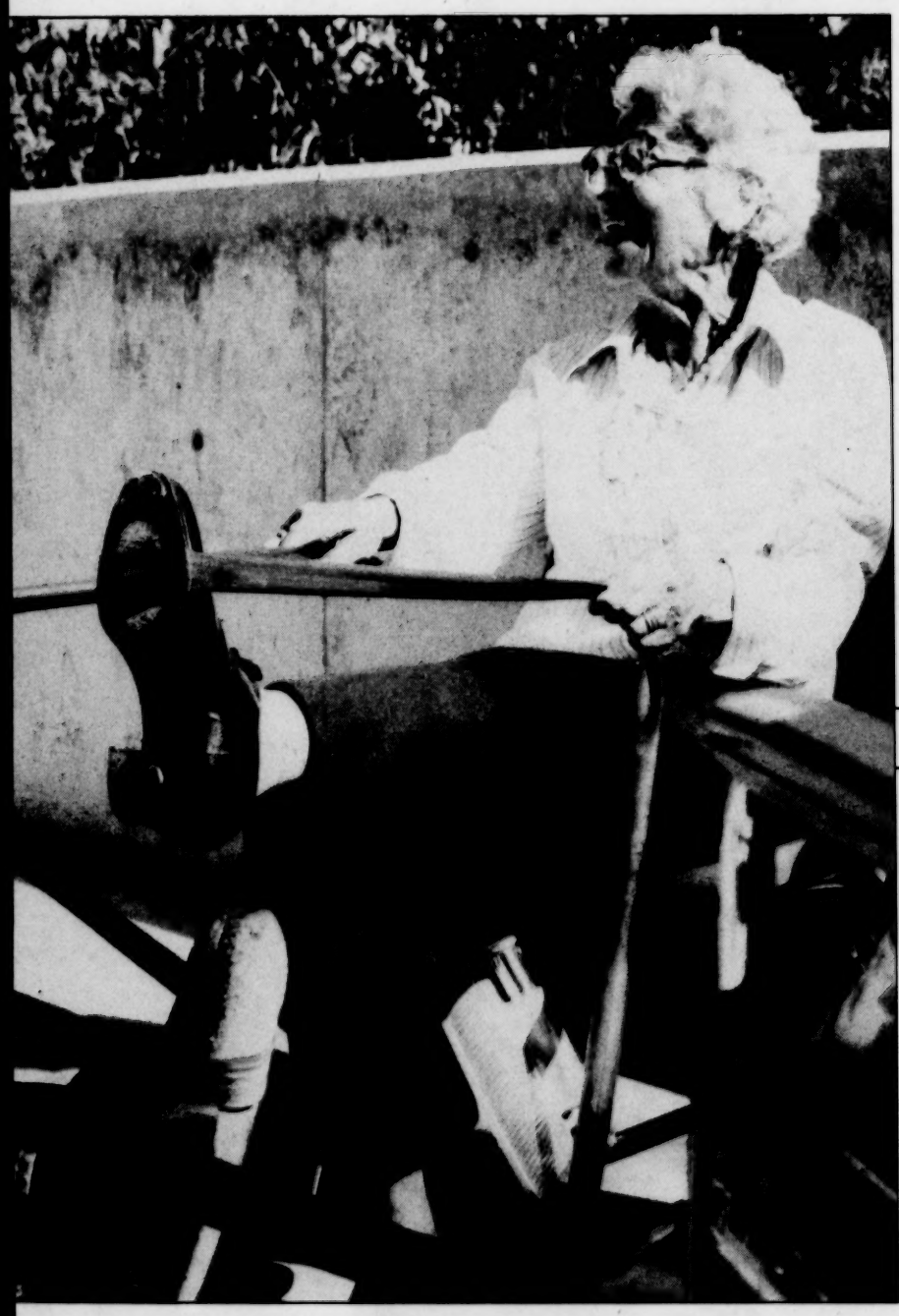
Tallest Paper Cup Tower

The World's Tallest Paper Cup Tower is unknown. This doesn't mean that effort is lacking. Or ingenuity. Or teamwork. It's paper cups and plates. They keep running out. Some recorded accomplishments are paper cup towers of 26 feet, 31 feet 3 inches, and 34 feet 8 inches.

I should warn you that one enterprising group of tower builders deferred the bearing wall technique, or "hold it" plan, in favor of taping some cups to the ceiling. They worked their way down — a distance of 36 feet. It's interesting to note that other builders faced with this upside-down phenomenon just kept right on building. It seems the building might be more enjoyable than reaching some ultimate height.

Tallest Inner Tube Sandwich

The World Record for the tallest inner tube sandwich is seven people compacted in between seven inner tubes. To try this record, place an inner tube on the ground. That's easy. Now lay a willing person, preferable someone who is large, across the inner tube. It works best to lie face down, with your belly snuggled into the center of the tube. Now you've got the idea. One tube followed by a person, followed by another tube and another person, and so on. It's all right to have lots of help in the stacking process. In fact, that's sometimes the best job. Don't be afraid to recruit passers-by to join in your quest. All they have to do is lie on a tube. Who knows — they might be part of a World Record. That is, if they can keep from laughing.



Most Complicated Inner Tube Stretch

One Monday evening I placed a pile of bicycle inner tubes on the floor of the main hall at the San Francisco Recreation Center for the Handicapped. I asked everyone to invent some ways to play with these tubular snakes. I offered no instruction or questions, or examples of play. All kinds of unusual world records were set as people tested ideas.

Testing requires some amount of trust. Trust in yourself, that what you try is only silly for a minute — or could fail altogether — or lead to some unexpected discovery. Testing also requires a sensitivity to your exploration — can you be brave enough to see what others are trying and work with them to make their idea better? That's the secret of shared victory: the will to play and win together, and then decide to play again. ■

Continuing the Tradition:
A Review of Jewish Alternative Magazines

by Ya'qub ibn Yusuf

BACK IN THE LATE '60s I went to a Jewish summer camp where the social concerns of the day (civil rights, pacifism, vegetarianism, communal living) and the spiritual concerns of the day (sex, drugs, and "religious experience") were allowed and often encouraged to interact with the camp's Zionist and religious agenda. It was an extraordinarily creative place. Out of places like Camp Rammah came the people who founded Havurat Shalom, the first of the non-hierarchical, non-denominational havurot, or "fellowships," of Jewish study, prayer, and celebration that since then have spread throughout the U.S. and Canada. At about the same time, a Jewish magazine of personal and spiritual inquiry called **Response** was begun, creating an intellectual environment which helped to nourish the havurah movement in its early years.

Response published serious articles on subjects like Judaism and existentialism, Zen and "the path" of Jewish religion, psychedelics and Kabbalah, and the plight of the Palestinians as "the Jews" of Israel. As the magazine became more successful and established, it veered away from areas of intense introspection and controversy, becoming less interesting — at least to me. Meanwhile, my own path led me to Israel, where my search for the living prophetic tradition took a surprising turn through the territory of Islam, towards Sufism.

Since then I've launched my own "radical culture" magazine up here in Winnipeg, Canada, called **Chautauqua Review.** As I find I'm publishing quite a bit more in the way of Sufi and Hasidic material than my prairie readership demands, it leads me to wonder what else is going on along parallel lines? Within the Jewish community in the States, what kind of journals exist out on the social and spiritual experimental edge?

In the States, it seems, the Jewish world is conveniently divided between East Coast and West Coast. (Whatever happened to the rest of the country?) Berkeley, California, can claim two alternative Jewish journals of note: **Shmate** and **Agada.**

What's in a name? Shmate (pronounced Shmahteh) means "rag" in Yiddish, as in "How can you go out in public dressed in such a shmate?") The message I find in this magazine is "Don't be ashamed. You have the right to be a Jew in this world, and the right to be a nonconformist within the Jewish world." The politics expressed here (and to some degree in all the magazines in this review), are left-wing, with integrity and self-respect. Israel is criticized for her arms sales to fascist countries, Reagan is criticized for using reports of anti-semitism in Nicaragua to marshal Jewish support for his policies, but anti-semitism is roundly condemned, within the Left as well as the Right. Along with political statements there is satire, humor, and reminiscence about Jewish revolutionaries and Yiddish cultural heroes; the artwork includes comics, posters, and Jewish book illustrations evoking the Jewish folk spirit of the last hundred years. While of course everything is in English, the unspoken language, the tone of voice, is Yiddish. **Shmate** reminds me of the Jewish socialist newsletters from the days of the Old Left — at least one of which still survives here in Canada. Except there's a new generation of young people putting this rag together, with a great deal of energy and style.

Agada (pronounced Ahgahdah) in Hebrew means "legend." Here we have the other side of the coin, a magazine interested not in cultural "Jewishness" but in the Jewish religious imagination, a place where English is spoken with overtones of Hebrew. **Agada** features a variety of new translations of ancient Kabbalistic texts, poetry, and apocryphal folk tales which echo traditional motifs. Whereas each issue of **Shmate** is based on a topical theme, like "Israel," "Nicaragua," "Jewish Humor," or "Jewish Identity," each issue of **Agada** is based — loosely, I presume — on the symbolism of a letter of the Hebrew alphabet! They started with "aleph" in 1981, and they print two or three issues a year. As there are 22 letters in the Hebrew alphabet, the cycle may be completed, with God's help, before the end of the decade.

There is a leisurely pace to this magazine . . . the illustrations are tasteful and mostly original, while

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Ya'qub ibn Yusuf first moved to Winnipeg, Manitoba, to study with Reb Zalman Schachter and stayed on to help develop a local bookstore and a community magazine. His current concerns include Sufism, with particular emphasis on the reconciliation of Judaism and Islam.

—Jay Kinney

The last Jewish burial in Managua occurred in 1983, and the gravestone displays a curious bilingual epitaph: the Spanish inscription accurately records the identity of the deceased, but the Hebrew lettering copies all too faithfully the words on the adjacent tombstone engraved seven years before. No one in the Jewish community could tell the difference. Thus, both epitaphs mourn the same person and, implicitly, the fate of the Nicaraguan Jewish community as well.
—Moment

the articles are literary, and only occasionally academic. Politics is not emphasized, but some of the writing carries an acute social sensitivity; in an article in the latest issue a woman relates how her experiences on a Navaho reservation led to a reawakening of her Jewish identity, but also to concern for the plight of Palestinian people. If I were to choose a word to summarize the magazine it would be "visions" of a Jewish spiritual quest. There is space in this publication for all kinds of visions . . . but with no sense of grounding, I feel like I'm floating in air.

Leaping across the continent to the alternative Jewish publications of the East Coast, I find there's a leap in attitude as well — towards a more commercial environment. I find that with most East Coast publications, I feel like someone is trying to sell me something, whereas with ***Shmate*** *and* ***Agada*** *there's more naive expression of the values and lifestyle of a certain extended family. Maybe it's just a fact of life of living on the East Coast (I grew up in New York . . .), and maybe a certain amount of "image" consciousness and sophistication enables a magazine to reach a larger audience. In the East Coast Jewish press I have selected for review, the quality of intelligence and sharing outweighs the sense of getting hustled for "the cause." But still it's there, ever so subtly, so I thought I should mention it.*

Another problem on the East Coast is that there are so many marginally "alternative" publications that it's hard to know where to draw the line between what's establishment and what's not. ***Moment****, in spite of being a very glossy, "designy" magazine, gets high marks for content. Think of it as a high-powered and yuppi-fied version of* ***Shmate****, keeping abreast of all sorts of Jewish political and cultural happenings in a lively and open-minded way. Where else would you find an interview with Jewish Soviet prisoner of conscience Ida Nudel, conducted by Jane Fonda? Where else would you find four leaders of Boston's black community invited to give their side of the story of what's become of Jewish-black relations? Where else would you find an article on the dangers of the American "moral majority" back-to-back with an assessment of the dangers of Meir Kahane and Israel's right wing — by Israel's former Chief of Military Intelligence, no less!? It was* ***Moment*** *that also had the courage to print Rachel Adler's disturbing article, in which she suggests Jewish feminists may be barking up the wrong tree in claiming a more active place in the tradition, if this tradition teaches that the 600,000 souls of Israel which stood behind Moses at Mt. Sinai were 600,000 souls of men! So maybe it's good that a magazine like* ***Moment*** *has infiltrated the establishment if it means that a lot more people are going to read it. Young, educated Jews looking for a way to talk about their Jewish concerns with their gentile friends — or with their parents — could do a lot worse than to buy them a subscription to* ***Moment*** *. . . after buying one for themselves.*

Moment *picks up the momentum of the later years of* ***Response****, when it gave up its radicalism to try to become just a damn good Jewish magazine. A new publication,* ***New Traditions****, attempts to pick up where the earlier* ***Response*** *left off. It is published by the "National Havurah Committee" (even the radical fringe now has its own establishment!) and is edited by the former editor of* ***Response****, William Novak (who's recently gotten famous, though not exactly rich, for having co-authored the best-seller* ***Iaccoca****).*

The first issue of ***New Traditions*** *is strong on psychological interpretations of biblical motifs rooted in personal experience: Cain as the cripple who hides behind his role, Jonah as the depressive who must learn to forgive himself, Moses as the "stranger" who finds himself as a Jew, Noah as the ordinary man who takes responsibility for life on Earth in the face of global holocaust. This is a genre of "personal midrash," or "personal interpretation," which has been developing along with the havurah movement itself out of roots in the*

Rabbinic tradition in which it is understood that my retelling the story according to my experience still leaves room for yours. It's wonderful to find such rich material gathered here, but I find, as with ***Agada*** *magazine, that after a while I'm like the character in the tale by Rebbe Nahman of Bratzlav who wakes up in the middle of the story to ask "Where am I in the world?"*

I find the most satisfying articles are the most "establishment" ones — because they are the most down to earth. Danny Siegel writes in "Good News from the Bar Mitzvah Circuit" about a new trend among 13-year-olds to refuse to collect huge amounts of loot; they insist, instead, that their family and friends make contributions to a certain charity in their name. And Larry Kushner — the token pulpit Rabbi in the magazine — writes cleverly in "Some Truths About Congregations" about how instead of sabotaging one another, rabbis and congregations could, perhaps, give each other permission to go ahead and do the things they created a synagogue to do.

Overall, I find this first issue of ***New Traditions*** *a bit like a class reunion. The old gang is out there, strutting their stuff, doing their thing better than ever. What is unsettling is how isolated and specialized everyone has become — the lack of a common agenda, a common theme. Most disappointing is the interview with Reb Zalman Schachter, the granddaddy of the movement to go back to the Jewish tradition to find resources that can be used creatively for spiritual renewal. When Zalman talks with great enthusiasm about the kind of approach he takes and how he got into it, when he talks about being "a Jewish practitioner of generic religion," it sounds to me like he's addressing a general audience for whom liturgical innovation in Judaism is a brand-new idea — rather than the folks already working within the havurah community. At one point he's asked a question which relates to the clash that plagued Havurat Shalom in its early years, between the Rebbe-student model and the model of a community of peers. With some effort and encouragement, he might have reached into our recent history for an insight of some value to subsequent havurot. But Zalman changes the subject and the interviewers let him go . . .*

I am expressing my disappointment because I see a great potential here. There are questions that confront all spiritual communites at this time about balancing tradition and innovations, as well as balancing the authority of the leader with the initiative of the individual and the wisdom of the circle as a whole. There are also questions that confront spiritual seekers within the Jewish tradition in particular. Do the root metaphors of the tradition, such as God giving us "commandments," speak to us anymore? Assuming that they do, what are fitting adaptations, say for increasing the role of women in the liturgical life? These are difficult questions, and I know that many contributors and potential contributors to ***New Traditions*** *have been wrestling with such questions for many years. But the only controversial cloud visible on the horizon of the first issue was Suzie Heschel's "Women Before the Law." It would be a pity if, in respecting one another's egos a little too much, people came to neglect the traditonal Jewish art of pursuing "controversy for the sake of Heaven."*

The articles I've mentioned are exceptional because there is a grounding in traditional Judaism and a love for it, along with a conviction that it is time for women's roles to change — which gives depth to what they say. The question of the place of women in the world of Judaism (as in the world in general) is perhaps the one new issue to have emerged since the '60s, for the radical Jewish community as well as the radical community in general. **Lilith** *is a magazine which has been representing Jewish feminst concerns for years. It addresses a broad spectrum of issues — from reforming "sexism" in Hebrew schools, to the plight of elderly Jewish women, to the plight of the Jewish lesbian who is accepted neither by Jews nor by gays. The magazine is well organized and well produced. As a social force, the "Speakers Bureau" networking through the magazine has had an influence on the larger community. But as a magazine, I find it limited by its rhetorical stance. It lacks the spirit of inquiry — of probing one's subject and questioning one's own assumptions — which distinguishes even a mainstream feminist magazine like* **Ms.** *That, to me, is the difference between preaching radicalism and living in a radical fashion, close to the root of things from which various alternatives open up.*

From a corner of the larger community represented

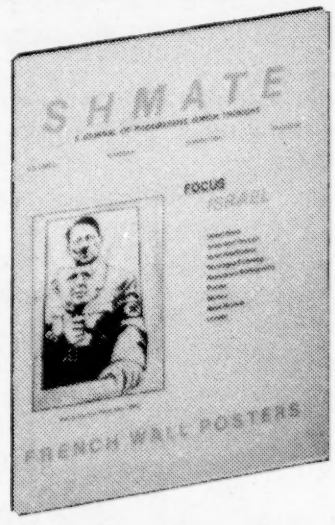
Corey Fischer and Albert Greenberg of A Traveling Jewish Theater.
—Menorah-B'nai Or

27 GATE FIVE ROAD SAUSALITO CA 94965

*by **New Traditions** comes a promising little newsletter **New Menorah**, which is actually the fusion of Art Waskow's journal relating to Jewish insights to current social and political themes with Reb Zalman's elaborate flyers announcing his workshops and projects and latest ideas . . . Though dated November-December 1985, the first issue is out already, and it looks like we have a fruitful collaboration. In the opening article, a Jewish mother and educator reflects with us on her experience with a new Jewish ceremony commemorating the onset of her daughter's menstruation. Two of the three articles that follow pick up the theme of the place of woman within the tradition. One is by a Jewish woman studying karate for self-defense who is ambivalent about the master-disciple relationship. The second is a neo-Hasidic tale by Reb Zalman about a certain Rebbe who came to recognize the Presence of God in a woman. What we have here is a remarkable achievement. In the space of a 12-page newsletter we have a genuine — though unannounced — exploration of feminine perspectives on the Jewish tradition. No one has told anyone to believe anything, but we emerge sensitized and enriched. It's true, the writing could be more polished. There's something unfinished about it (it is only a newsletter, after all). It feels to me, really, like an interpersonal "journal," a running account of "work in progress," carried on not just by the authors, but by all those who, sharing these concerns, make community.*

Agada
Reuven Goldfarb, Editor
$5.75/single issue;
$10/year (2 issues)
from: Agada
2020 Essex Street
Berkeley, CA 94703

Shmate
Steve Fankuchen, Editor
$15/6 issues
from: Shmate
P. O. Box 4228
Berkeley, CA 94704



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When we affirm who we are, we tend to say, "I am"; the Christian equivalent is, "I believe."
—William Leffler, *Shmate*

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On a practical level, I guess I am asking *all* Jews to ask themselves the questions we are asking here, and not to reject other Jews whose answers, for whatever reason, may be different. I don't know of any practical solution to the problem that there is no way for a secularist to convert to Judaism, so that anyone who has converted to Judaism has, by that very process, set herself apart from a large segment of the Jewish people by declaring herself religious (if not necessarily Orthodox) rather than "cultural" or "secularist." Maybe what we need is tribal initiation ceremonies, as many Native American peoples have. —Marian Neudel, *Shmate*

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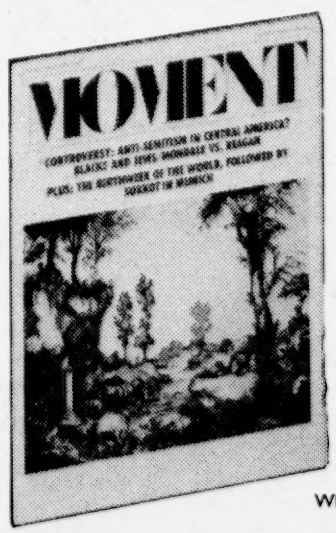
The Jewish expatriates in Miami indignantly denied being supporters of Somoza, and it does seem that over the years they had taken care to appear political albinos, supporting and opposing no one. Nonetheless, whether from fear, a businessman's pragmatism, or gratitude for Somoza's protection, some Jews had clearly accepted ties to the old regime. Fred Luft, a heavy-set, warmly engaging man of about 60, formerly the owner of three department stores and four "Mom and Pop" businesses in Nicaragua, told me that he could scarcely be seen as having connections with Somoza: "Do you want to know how many times I met the man in my whole life? Only twice!" I responded that at 33, I had yet to meet my first president, and so his two visits to Somoza seemed quite impressive. Was it not possible that the average Nicaraguan worker also found it remarkable that he dealt with Somoza at all? I braced for an angry reaction, but Luft remained expansive rather than defensive. "That's an excellent point!" he said, first to me and then to a less than pleased Isac Gorn. "I'd never thought of that."
—*Moment*



Moment
Leonard Fein, Editor
$3/single issue;
$27/year (10 issues)
from:
Moment
462 Boylston Street
Boston, MA 02116

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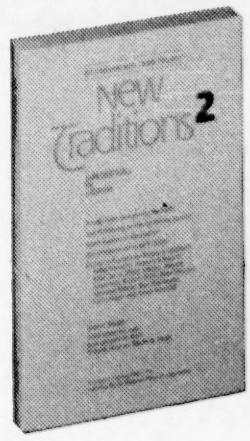
When I ask fifteen-, sixteen-, and seventeen-year-olds if they think bar and bat mitzvahs kids would like to give away some of their money to tzedakah, there are mixed reactions. On two separate occasions I have heard the following: "No, they would not. They worked hard for it; they earned the money. They deserve to keep it."
I am appalled. Bar and bat mitzvah has become a job, like a job as a high tech computer specialist or a psychiatric social worker. A person works, gets paid, keeps the wages, and spends them as he or she pleases.

I have an astounding document from the younger generation: a "Tzedakah Fund Report" from Chicago, issued by a bat-mitzvah girl. It details $727.00 in allocations — money given to her to distribute in Israel, plus fifteen per cent of the cash gifts from the bat mitzvah. Contributions included ALYN Orthopaedic Hospital in Jerusalem, Life Line for the Old (also in Jerusalem), Yad VaShem, Hadassah Levi's home in Ramat Gan for infants with Down's Syndrome, and other worthy projects. . . .

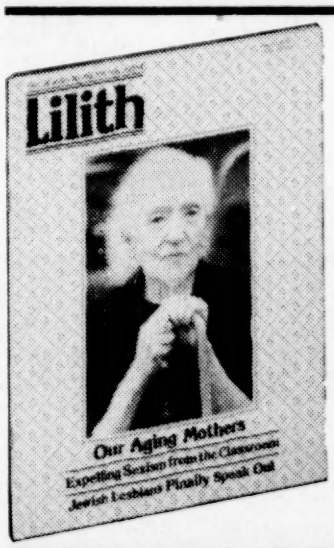
She says, "It makes me very happy to know that, as a result of my Bat Mitzvah, over $3,000 was contributed to make a better life for people now and in the future; to learn from the past to provide assistance for the elderly, the handicapped, and the needy, so that they may lead productive lives; and to invest in the future through education and medical research."

New Traditions
William Novak, Editor
$5/single issue;
$18/4 issues
from:
National Havurah Committee
270 West 89th Street
New York, NY 10024



Wow!

There's a million possibilities out there to fight the "Bat Mitzvah Party To Be Like One Big Shopping Spree" syndrome. Only let us hope that some of these become standard practice, rather than the occasional exception. Let us hope that the "kid" will speak from the gut on The Great Day — eliminating the trivia of most bar and bat mitzvah speeches and getting down to the *real* issue — Growing Up, becoming a responsible member of the Jewish Community. —*New Traditions*



Lilith
Susan Weidman Schneider, Editor
$12/year (4 issues)
from:
Lilith
250 West 57th Street
New York, NY 10019

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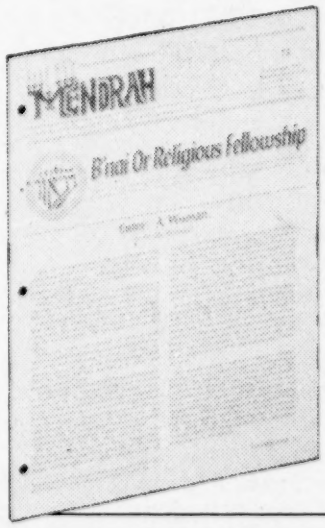
One day in the dojo, after my thirtieth practice kick, I caught the bag and stood for a moment. A thought had come to me through the sweating and the slight tingling in my leg that a good kick gives me. I thought, there are no Masters. There are no Rebbes, no Senseis. At best there are excellent teachers. Perhaps in another world there were Masters. In another century. But I doubt it. I cannot believe things were so different in Lodi, or even Bratslav.

When people forget they are teachers, then they become Masters. Teaching empowers someone else with knowledge. The Master empowers no one because his Disciples worship at his feet, eyes aglow, reflecting back all the power they might absorb.

There are no Masters. That thought still makes me a little sad. At one time in my life I dearly wanted a Master. Once someone asked me if I had a Rebbe. I answered no. He told me that was good. He said the hassidim think they have a Rebbe, the non-religious don't think they need one. The rest of us know we need a Master, and spend our lives looking for one. That kept me going for a long time. Now, though, I work on my roundhouse kick trying to integrate the Albert Einstein in me with the Alex Sternberg. I've gained enough strength to stop searching for a Master and to start listening to the teachers I meet.

I'm strengthening my legs. Strong legs root you to the ground, lead you back to the root of your being. When you are rooted you cannot be moved unless you wish to be. No one can build my legs for me. I have to sweat, and kick, and ache. I have to posses the inner dream strong enough to endure the outer pains. The Master's legs may be strong enough to carry his Disciples, but it doesn't help them to stand and root. That each one must do alone.

—Rhonda Shapiro-Rieser, *Menorah-B'nai Or*



New Menorah
(The B'Nai Or Journal of Jewish Renewal)
Arthur I. Waskow, Editor
$18/year (12 issues)
from:
Menorah
P. O. Box 1308V
Fort Lee, NJ 07024

Things Which Get Lost

by Carole Malkin

ALL OF US FEAR that something of great value will pass directly before us and we will lack the prescience to seize it. It is a haunting anxiety reflected over and over in fairy tales where the hero chooses the wrong box, and it is played out in quiz shows.

"Where can great treasures be found in America? One must search and then possibly they can be found in a trashcan."

—David Toback

One afternoon, talking to a friend in my garden, I told her the story of the lost manuscript. My grandfather had written a memoir in the 1930s in Yiddish and I happened to be present when my aunt gave it away to a stranger. This was in 1952, several years after my grandfather's death. I was fifteen years old at the time. Why he wrote it, what was in it, whether it had literary or historical importance were all unknown. The manuscript raised such mysteries that even fifteen years later I was still puzzling over it. My friend said, "Why don't you try to get it?" and I decided I would.

In that moment the manuscript was almost refound; a bridge was begun between the circumstances of my life, one that permitted idle afternoons in the garden, and my grandfather's, the extreme poverty of a Russian shtetl and the Lower East Side, the stupefying labor in a non-union sweatshop. From an enormous physical and psychological distance away, I began to journey towards him and my own roots.

My grandfather died when I was five years old and I scarcely remembered him. From one generation to another, things get lost, fail to be transmitted, but in the case of immigrant families the squandering of a heritage is greater. In America the void is filled by a consumer culture. Everyone knows the architecture of a McDonald's, or is familiar with the jingles of television commercials, but things like a Yiddish memoir drop into a dark obscurity.

Our thanks to the Jewish literary journal Agada, *reviewed on pages 111 and 112, which first printed this essay by novelist Carole Malkin in their September 1981 issue. Passing on the power and ambition of her Russian grandfather's manuscript, Carole cast her inheritance into a novel called* The Journeys of David Toback *($7.81 postpaid from Schocken Books, Attn.: Prepaid Order Dept., 62 Cooper Square, New York, NY 10003).*

The memoir was not even so difficult to recover. A note to my aunt brought the news that the man she had given the manuscript to had died and it had been returned to her. The memoir, five notebooks filled with a beautiful scribe's penmanship, arrived one day.

A professor at the nearby University, an expert in the Yiddish language, was kind enough to scan the notebooks and translate short passages for me. I sat on the edge of the chair he had offered as he turned the fragile, yellow pages.

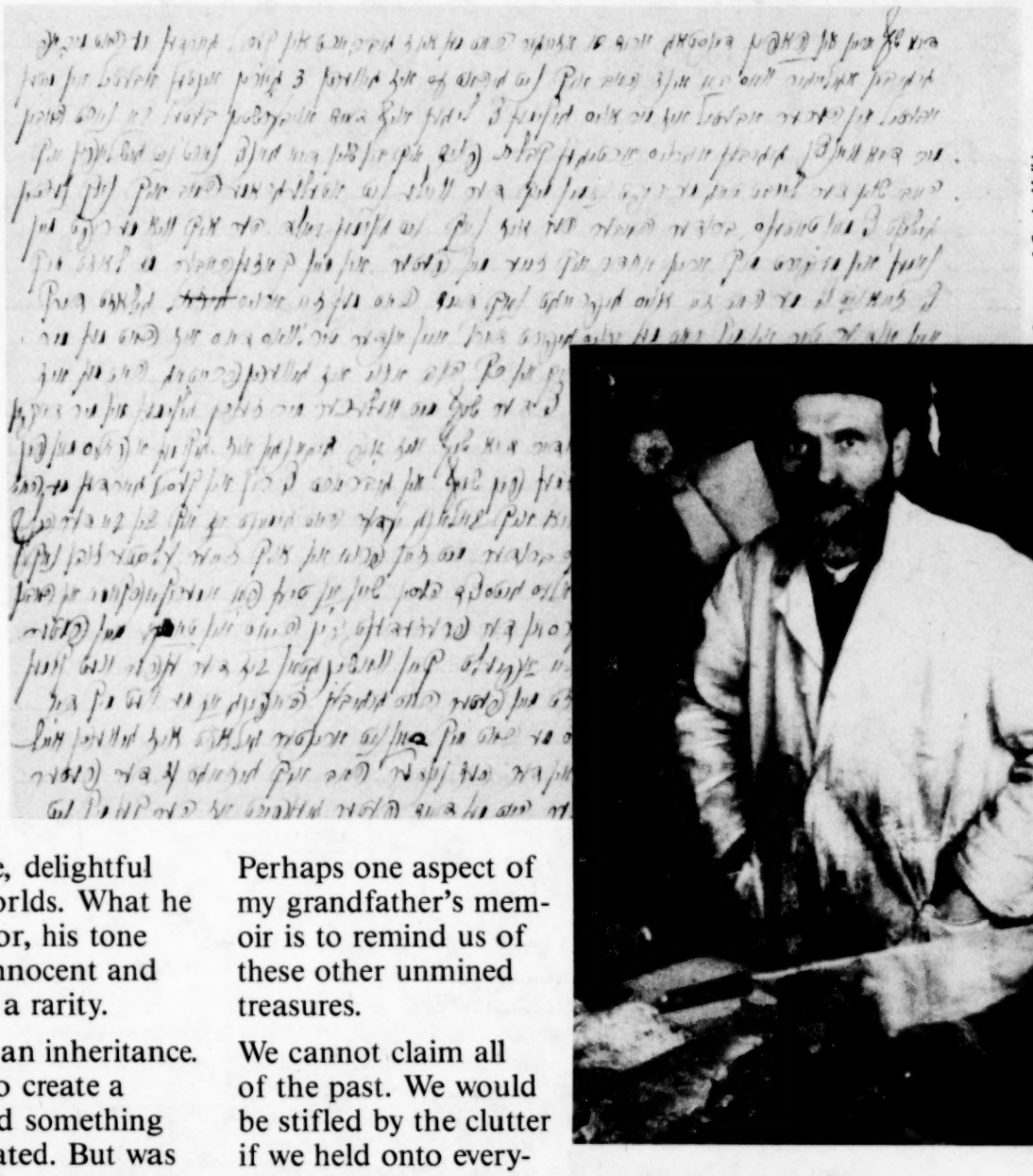
"Your grandfather is definitely not a writer," he said and expressed concern at the difficulty and expense I would have in finding a translator. Would it be worth it? He was pessimistic.

To console me he offered a glass of white wine. With a mournful feeling I drank and then, as if tucking a corpse in a coffin, I put the notebooks back in the box in which they had come to me — the box in which, probably, they would remain. From the back of my aunt's closet, to the back of mine. Here was something which was lost, then found, only to be lost again.

Everything works towards losing things. We dream of time machines to free us from the cramped position of the present, to console us for death, and yet when a true time machine comes we cannot recognize its disguise. We reach for the transient. Why pay for a translation, I argued with myself, when a new carpet for the living room would be nice?

Still, curiosity is a strong instinct. The Yiddish of the memoir, a language incomprehensible to me, was a Pandora's box to be unlocked, letting out golden treasures, or dark secrets or perhaps just the empty rambling of a senile old man.

Other members of the family had known of the memoir and not been tempted to do anything with it. For me it was different because I am a writer. I knew a book one has written is like a child and one has the same ambitions and tenderness towards it. The book — the child — called out to me, with the tears and pain of my own efforts. Also there was something else. My grandfather was not a writer of "finished" prose, but the small fragments I had heard translated, to my ear, hinted of a beating life.



Courtesy of Carole Malkin

David Toback, tutor and shopkeeper from a Russian frontier province, wandered extensively in typical immigrant fashion. This page of his journal recounts the time he was refused entry into America, early in this century. Later, after successful immigration, he became a butcher in the Lower East Side ghetto of New York City.

That I was right was affirmed when I had it translated. My grandfather had written about his life in prerevolutionary Russia, saying, "Although everything I say is true, these stories are like legends." He had a unique vision of a world which no longer exists, a skill to select from ordinary experience what could be extraordinary. Most interesting to him was the reality behind illusions, the tension of a religious outlook in a morally chaotic existence. He told simple, delightful stories that reflected complex worlds. What he saved best was himself, his humor, his tone which was light and sweet, his innocent and transparent personality which is a rarity.

There is a great responsiblity in an inheritance. People who rescue things have to create a structure to keep them safe. I did something with the memoir, I had it translated. But was that enough? Probably because it was an unpolished piece of writing, it would have again been lost at my death. It would have been just a private heirloom, like a bracelet or a pair of candlesticks, a thing which could easily be mislaid — particularly because it had no monetary value. The legacy my grandfather left was something intangible, something from his soul to be passed into the souls of others.

As it was, no one would have read it. I am sure he would have wanted the memoir to take the form that allowed others to appreciate and learn from it.

OFTEN THINGS HAVE TO BE ALTERED TO BE PRESERVED.

My grandfather wrote his stories for himself; I saw the possibility of a larger audience. I wrote a book based on the memoir. It was like a mined diamond that had to be cracked and then polished so that the brilliancy of all its facets would be apparent. Personal memoir became group memory.

I understand that many Jews write memoirs, as if every Jew has a story to tell. They are put in the attic or contributed to Jewish archival libraries and there they stay, read by no one. Perhaps one aspect of my grandfather's memoir is to remind us of these other unmined treasures.

We cannot claim all of the past. We would be stifled by the clutter if we held onto everything. What I want to suggest is that there is a middle ground to the extremes of keeping everything intact or throwing it all away. The alternative is choosing what we are capable of valuing and integrating into our present life. My grandfather was a Hassidic Jew. As I drew closer to him I wanted to emulate him more. I could not be as religious as he, and yet I found it brought me pleasure to practice more of the Jewish traditions than I had previously.

If I acted on the memoir, then the memoir acted upon me. From dormancy it began to take on more force in my life. My grandfather came from Russia to America. For the sake of the book, I made the journey back. It was like playing a movie in reverse, the boundaries of the past collapsing. Almost the moment I touched Russain soil, I was accosted by a young couple (my husband's relatives) about the age of my grandfather and grandmother when they decided to emigrate. They told me that they had traveled several hundred miles to make contact with me because they wanted to come to America. Here was something else that was refound. The events which happened to me began to have a cultural context; I was the granddaughter of a Russian Jew. ■

27 GATE FIVE ROAD SAUSALITO CA 94965

Grand Street
Ben Sonnenberg, Editor
$20/year (4 issues)
from:
Grand Street
50 Riverside Drive
New York, NY 10024

Grand Street

KEVIN KELLY: Young, eclectic, demanding of excellence, this highly regarded literary quarterly is distinctive in formula: print the best, run interesting nonfiction in addition to fresh poetry and fiction, and pay writers a lot of money for their work. That's so contrary to the run-of-the-mill literary magazine that this one is attracting fabulous new authors and soaring like a hawk.

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The Foundry *James Robison*
There was a shallow valley I knew about, with a false floor of ice because a beaver dam had made a flood. I skated there on Saturdays, threading ice-locked columns of dead trees. I had always had the place to myself until one weekend a guy and his girl showed up.

I thought the guy might do flying stunts, since he wore a white banner from his throat and a felt cowboy hat, but he crumpled at the knees and ankles once he shoved away from the bank.

So I skated with the girl.

I stroked along beside her and then I took her hand — her glove, really — and she clasped mine. She was bigger, more fit than my own lazy girlfriend, so it was odd, and it made me happy to be close to her. When I put my palm on the back of her ski jacket, I was surprised at how deep was the trench of her spine — a sign of strength — and I could feel thick lively muscles working in rhythm with her legs.

"You know, that's my husband," she said to me.

"So what?" I said.

She swirled from under my arm, veered off, reversed and coasted backward on straight legs. She dared me with her best look.

The sky was graphite. There were bonelike birches and snow shapes and green-black firs on the hills around her.

The Women's Review of Books

KEVIN KELLY: Overhearing women discussing what other women are writing about women is where I've been changed by women most often lately. Aiming to persuade each other, there's a refreshing absence of a "correct" viewpoint in this monthly newspaper, and therefore little sexist rhetoric. Since it's published by the Wellesley College Center for Research on Women the tone is scholarly, thorough, and articulate. I find myself listening hard.
[Suggested by Lynn Kear]

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Ellen Rothman explores what she calls the "lifecycle of courtship" through the letters, diaries and reminiscences of 350 white, Protestant, middle-class American women and men living in the settled areas of the North who came of age in the years from 1770 to 1920.

A number of general themes emerge from this detailing of the lifecycle of courtship over time. One is the lack of parental control over courtship from the earliest period she considers. Because love had become essential to marriage by the late eighteenth century, parents might control the timing of marriage but they no longer arranged marriages for their children. Ironically, only in a more modern period did parents attempt to exert more control over courtship. In the period from 1870 to 1920, when young people began to court away from home and family — in dance-halls, nickleodeons, and eventually in automobiles — parents, and especially mothers sought a more central role in courtship. On the whole, though, it was difficult to challenge the autonomy that courting couples had long enjoyed; the history of American courtship is by and large the history of an institution controlled by young people.

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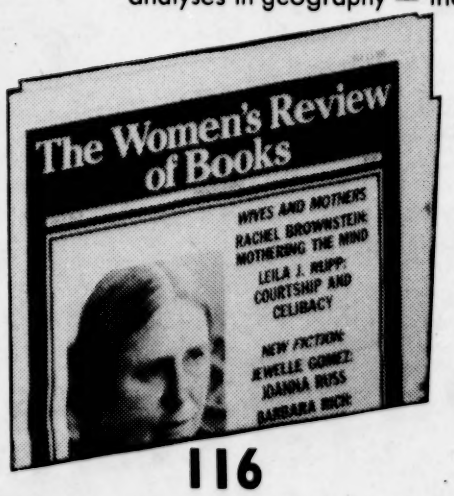
The heart of the book presents four examples of feminist analyses in geography — theory put into practice. The

Barbara Pym, from "A Very Private Eye: An Autobiography in Diaries and Letters."

first of these, "Urban Spatial Structure," goes over relatively familiar ground; it details the extent to which European and American urban structure is shaped by changing notions of women's nature, women's role, and women's "place." The development of particular housing forms, the emergence of suburbs in industrializing cities, and changing dynamics of home/work relations, which are usually attributed to economic forces, are seen to be, in part, consequences of the gender assumptions of society.



The Women's Review of Books
Linda Gardiner, Editor
$14/year
(12 issues) from:
Women's Review
Wellesley College
Center for Research
on Women
Wellesley, MA
02181-8255

Daedalus Books

JOE KANE: Here's a new and welcome twist on "remaindered" books (the heavily discounted hardbacks often found at bookstores). As Daedalus' owners point out, "remainders are not books that don't sell, but simply books (whether bestseller, classic, or disappointment) whose remaining stock at publishers' warehouses is larger than their projected sales." That often happens to good books.

Daedalus selects what it considers the best of the lot, with an eye towards literary bargains, then sells them via mail order at tremendous savings. Prices average $3–$5 a book, which means you can buy a hardcover that is cheaper than the paperback.

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ENGLISH CRITICAL ESSAYS
Twentieth Century, First Series
Phyllis M. Jones, ed. Oxford (import) . . . $2.98
This is a volume in Oxford's ever-scarcer *The World's Classics* series. This reader has always loved these books. They're tiny — smaller even than a mass-market paperback — but are nicely bound. I'd probably buy something as dreadful as *The Pilgrim's Progress* if it came in one of these editions. But *this* book is actually a wonderful collection of essays — the perfect kind to tote around just in case you're stranded at the Terminal Hotel and Grille for four hours with nothing to do. It contains essays by Robert Bridges, George Saintsbury, George Moore (on George Eliot), Max Beerbohm, Desmond McCarthy (on Robert Burton), E. M. Forster, Charles Williams (on Robert Bridges), T. S. Eliot, J. Middleton Murray, Herbert Read, Virginia Woolf and others.

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Washington, DC
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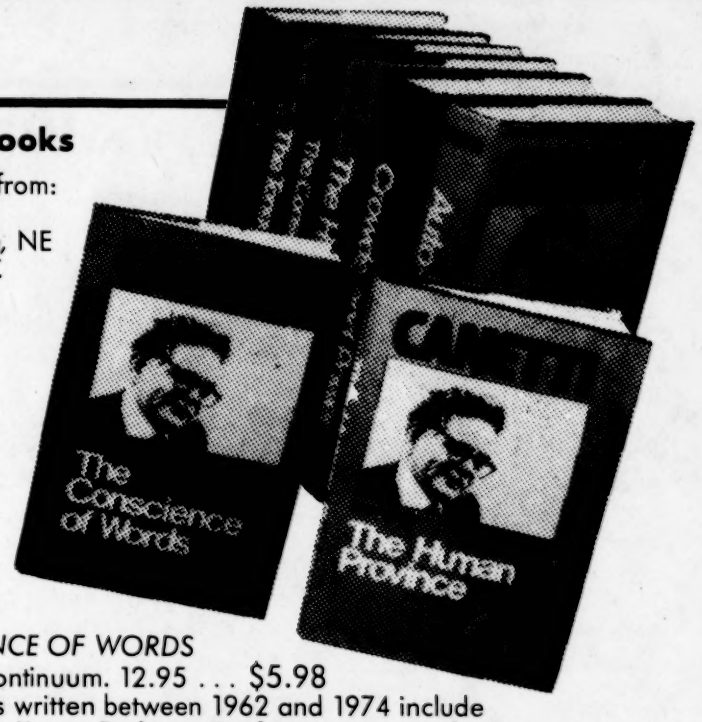

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THE CONSCIENCE OF WORDS
Elias Canetti. Continuum. 12.95 . . . $5.98
These essays written between 1962 and 1974 include pieces on Broch, Kraus, Buchner, Confucius, aspects of World War II and its survivors, the possibility of regaining the sense of "writer," an essay about *Auto-da-Fe*, and the entire text of *Kafka's Other Trial*.

When Canetti was awarded the Nobel Prize in 1981, I noticed Canetti's picture on someone else's front page of the *New York Times* while waiting for the subway in New York, and practically accosted the unsuspecting commuter who found my explanation weak and contrived, edging away with a look of controlled horror. It is therefore with obvious pleasure that we are now able to offer five of the seven books published at that time by Continuum.

West With the Night

STEWART BRAND: Not so many autobiographies have jacket notes by Ernest Hemingway ("I knew her fairly well in Africa and never would have suspected that she could and would put pen to paper except to write in her flyer's log book. As it is, she has written so well, and marvelously well, that I was completely ashamed of myself as a writer." — from a letter to Maxwell Perkins).

It's one of those books that people go back and buy five more of to give to their best friends, a book that gets people excited and thinking seriously about changing their lives. Adventure calls in every crafted line. Beryl Markham had one of the most wonderful childhoods imaginable growing up in the twenties with the natives and animals of East Africa on her father's pioneer farm, raising race horses and later training them, then becoming one of the earliest pioneer bush pilots of Africa, later making a famous solo flight across the Atlantic the wrong way ("west with the night").

Great stories, but it's the writing that gets you. She is the most empathic of writers. She tells of being mauled by a lion from the lion's point of view, of being bitten in the back by a tempermental race horse and flung against the stable wall from the horse's perspective. Pretty soon the reader is completely sucked through the page and reembodied into her experience, suffering and glorying as the suspense screws tighter in each mini-saga. Through it all is a fine laconic wit and constant insights, offered as asides, that make you put the book down and stare at nothing.

Restored to life from its 1942 edition by North Point press, the book has their usual superb manufacture, acid-free pages sewn for abundant rereading.

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A man can be riddled with malaria for years on end, with its chills and its fevers and its nightmares, but, if one day he sees that the water from his kidneys is black, he knows he will not leave that place again, wherever he is, or wherever he hoped to be. He knows that there will be days ahead, long tedious days which have no real beginning or ending, but which run together into night and out of it without changing colour, or sound, or meaning. He will lie in his bed feeling the minutes and the hours pass through his body like an endless ribbon of pain because time becomes pain then. Light and darkness become pain; all his senses exist only to receive it, to transmit to his mind again and again, with ceaseless repetition, the simple fact that now he is dying.

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I have sometimes thought since of the Elkingtons' tea-table — round, capacious, and white, standing with sturdy legs against the green vines of the garden, a thousand miles of Africa receding from its edge.

It was a mark of sanity, I suppose, less than of luxury. It was evidence of the double debt England still owes to ancient China for her two gifts that made expansion possible — tea and gunpowder.

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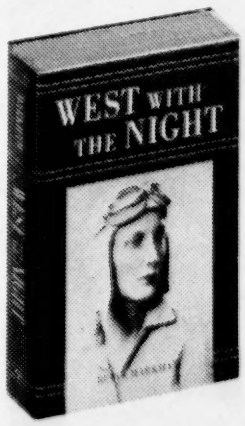
'When you fly,' the young man said, 'you get a feeling of possession that you couldn't have if you owned all of Africa. You feel that everything you see belongs to you — all the pieces are put together, and the whole is yours; not that you want it, but because, when you're alone in a plane, there's no one to share it. It's there and it's yours. It makes you feel bigger than you are — closer to being something you've sensed you might be capable of, but never had the courage to seriously imagine.'

West With the Night
Beryl Markham
1942, 1983; 294 pp.
$14
postpaid from:
North Point Press
850 Talbot Avenue
Berkeley, CA 94706
or Whole Earth Access



Finding Money for College

KEVIN KELLY: Gone are the days when freshmen in college were all high-school seniors on a four-year railroad ride to a Bachelor's degree. These days college isn't so linear. Half of the people enrolling in college now are older, usually highly motivated adults, often locally bound, back for a Master's degree, night school, or a law or medicine degree.

This book is for them, and the traditional college hopeful as well. It's about how to approach the financing of your learning as creatively as you choose what to learn. The book wisely counsels not paying so much in the first place (even Ivy League schools will bargain on tuition if you don't call it that), and provides excellent, clever, unconventional means of digging up what money you do need.

We have two major self-esteem rites-of-passage in our culture, and a good book for each. What the indispensable ***What Color is Your Parachute*** *(**NWEC** p. 303) does for landing a job, this does for landing an education.*

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Thousands of corporations have programs in which they will pay for all or part of their employees' school expenses. Based on what the corporations *say* they would have done, over six billion dollars in tuition and fee reimbursement goes unclaimed each year, simply because no one asked for it. This is partly because school-attending employees were unaware of the reimbursement plan, and partly because not enough employees chose to attend school in their spare time.

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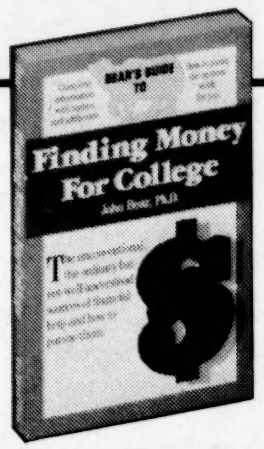
There are certain costs involved in applying for scholarships, fellowships, grants and the like. Out-of-pocket costs (postage, telephone calls, preparing resumes, portfolios, travel, etc.) are generally quite low for each



Finding Money for College
John Bear, Ph.D.
1984; 164 pp.
$6.80
postpaid from:
Ten Speed Press
P.O. Box 7123
Berkeley, CA 94707
or Whole Earth Access

separate application — but if 20 or 30 or more separate applications are being made, the amount can be substantial. If the value of your time is factored in — and perhaps it should be, especially if you could be out *earning* money during the time you spent *applying* for money — you may even find that the potential return on investment is not large enough to make it worth your while.

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There are, for example, 900 colleges and universities offering tennis scholarships for women. Conservatively, let's say 5,000 scholarships. To get one, then, you don't even have to be one of the top 5,000 woman tennis players. You have to be one of the top 5,000 female tennis players who want to go to college and who are academically qualified to do so.

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Recruiters of students: This may be the most common and most valuable of all. Some schools encourage currently enrolled students or alumni to help promote the school to others in their community, business, etc. For each student who enrolls as a result of their efforts, they are paid a fee or commission, which can range from just a few dollars to many hundreds of dollars. Many students have been able to reduce their *own* tuitions to zero by this method.

The Scholarship Book

KEVIN KELLY: Considered by the pros in the field to be the best crack at a national directory of regional scholarship funds for undergraduates. Entries are listed by subject of study; unfortunately, a geographical listing is lacking. At the very least it points to the depth of this invisible iceberg of finance.

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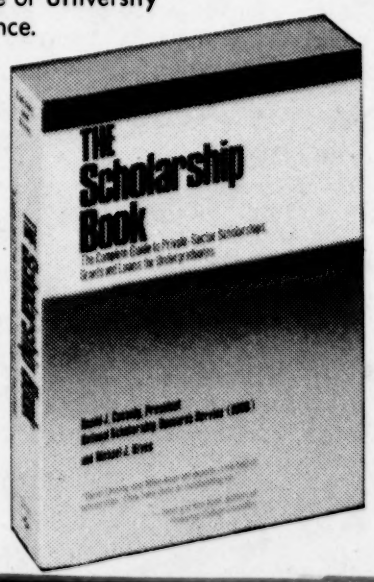
Life Sciences Scholarship

Name:	Allied Mills Inc. (Animal Science Scholarships)
Address:	10 South Riverside Plaza Chicago, Il 60606
Telephone:	(312) 930-1050
Amount(s):	$1000
Deadline(s):	None
Distinctive Area(s):	Animal Sciences

Abridged Description: Must be present or former 4-H members with at least 1 year of 4-H work. Must be in good scholastic standing. Must plan to enroll for junior year in accredited college or university and major in animal science.

The Scholarship Book
Daniel J. Cassidy and Michael J. Alves
1984; 399 pp.
$19.35
postpaid from:
Watermark Communications
P.O. Box 2959
Petaluma, CA 94953
or Whole Earth Access



Kites For Everyone

J. BALDWIN: The Charlie Brown Effect won't doom these proven designs, but this book's encouraging tone will doubtless result in the Kite Eating Tree gaining weight. Projects range from fancy sewn jobs to brown paper bag cheapies, all patterned and accompanied by very explicit instructions intended to result in winners. The author's "tone of voice" is that of teacher (which isn't surprising, since that's what she is), making the book particularly suited for use in a classroom situation where the teacher might not be up on the latest aerodynamics. A confidence-builder at all levels.

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In 1976, in a Bicentennial crafts program in our local schools, I was teaching sixth grade students to make the Siamese snake kite, when a boy, recently arrived from Vietnam, came up with a piece of the bamboo reed, saying, "Can I show you the kite we make in Vietnam?"

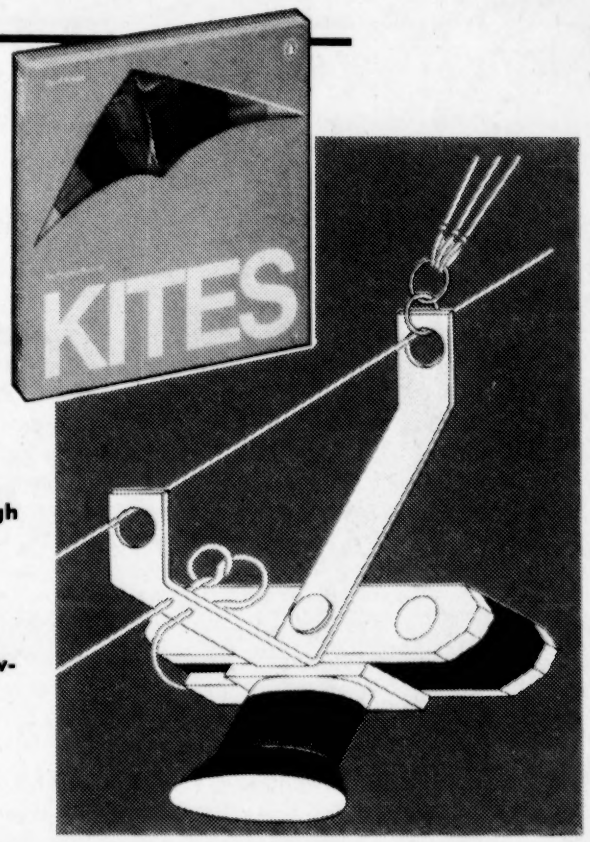
This little kite, made with the newspaper which covered the work table, is a jewel. Dimensions are given in the layout, as they must be, if someone who has not seen the kite is to build it, but when I teach the Vietnamese

Kites For Everyone
Margaret Greger
1984; 140 pp.
$11
postpaid from:
Margaret Greger
1425 Marshall
Richland, WA 99352

The Penguin Book of Kites

HAYDEN MATHEWS: Absolutely the best book on the subject in terms of technical accuracy and the total breadth of subject material. Many accurate designs with plans and construction techniques are clearly shown. Maximum fun with cheap materials. I've been building kites for three years now and still get a rush when a new creation goes up and really flies!

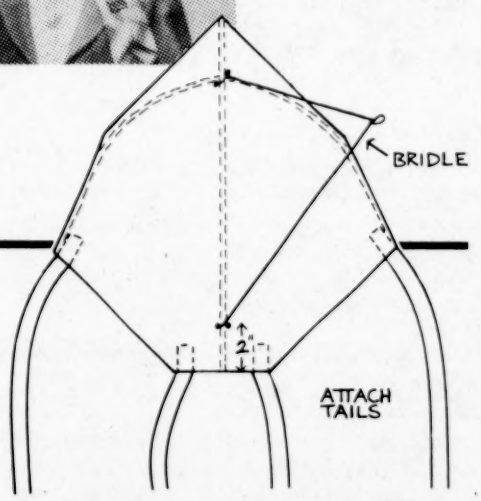
The Penguin Book of Kites
David Pelham
1984; 228 pp.
$9.95
postpaid from:
Penguin Books
299 Murray Hill Parkway
East Rutherford,
NJ 07073
or Whole Earth Access



Powell's Stunters, 23 m (75 ft) sky-writing streamers show where the kite has been. The picture shows three stunters flown 'stacked' one behind the other.

A lightweight camera bracket can easily be made from an aluminum strip. The holes through which the line passes should be well polished: obviously any sharp edges are very likely to fray the line.

Many ingenious and inexpensive alternatives for releasing camera shutters in the air exist, usually involving alarm-clock mechanisms, slow-burning fuses, elastic bands and so forth.



Vietnamese kite.

kite in the classroom, we eyeball it. Some kites will be fat, a few will be skinny, and one or two may be bridled upside-down, but all will fly. There can hardly be a better introduction to kitemaking.

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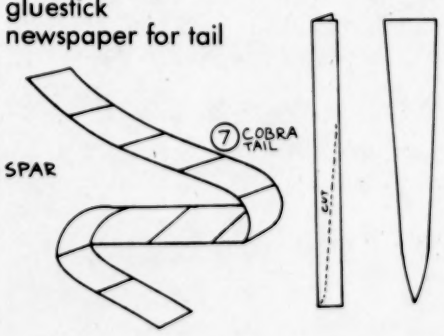
Paper Bag Snake Kite

This low-cost version of the Snake came from Gary Hinze of San Jose. The brown grocery bag and the newspaper tail are dramatic in the sky, turning dark and somewhat ominous. The kite tail must be softened by crumpling and smoothing out several times; otherwise, it is too stiff for stability. When I demonstrate making this kite, it surprises the class to see me suddenly crumple the kite tail which I have so carefully assembled.

③ TAPE IN SPINE AND SPAR

Materials:
large grocery bag with end removed (makes two kite faces)
1/8" dowels, 16" and 12" long
strapping tape
gluestick
newspaper for tail



Kites by Mail

KEVIN KELLY: There was a guy on the beach this weekend making his kite do loops, telling it where to fly, zipping it to earth and then back up. He said it was a stunt kite. He handed me two lines, one in each hand, and in a minute I was driving it all over the sky, steering it like a racing car. I don't think I'll ever be satisfied holding the lone end of a stationary string again. You can get this kind of kite, and almost any other, from the well-stocked Into The Wind, which carries the widest variety of innovative, unusual, and high-quality kites.

In the hands of an expert, the traditional single-string fighting kite of Asia can be trained to do almost the same tricks. Grandmaster Kites imports a high-tech version from China that replaces bamboo and rice paper with fiberglass and mylar. Kids in Asia battle kites in competition by crossing kite lines to saw off the other kites. You can go through a lot of kites that way. For a kite-fighting contest you can buy cheap ready-to-go Indian fighting kites by the hundreds (or thousands) at wholesale prices from Fighting Kite Company.

Into The Wind
Catalog **$1** from:
Into The Wind
2047 Broadway
Boulder, CO 80302

Grandmaster Kites
Catalog **free** from:
Grandmaster Kites
P.O. Box 12377
Portland, OR 97212

Fighting Kite Company
Catalog **free** from:
Fighting Kite Company
3116 Arlotte Avenue
Long Beach, CA 90808

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100 Professional Fighting Kites 82.00
500 Professional Fighting Kites 360.00
1000 Professional Fighting Kites 620.00
5000 Professional Fighting Kites 2000.00
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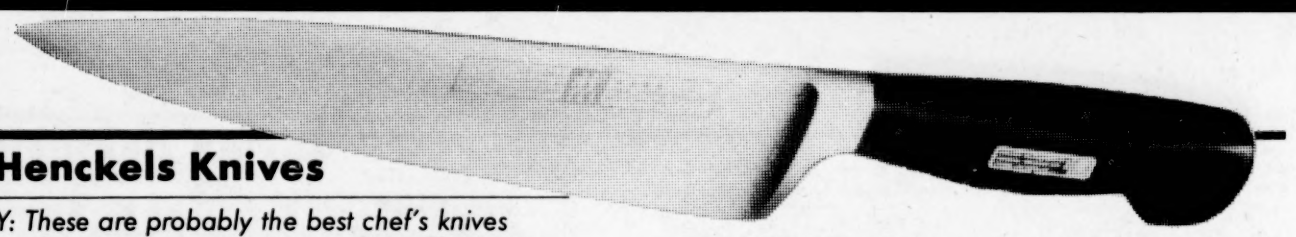


J. A. Henckels Knives

J.R. SHAY: These are probably the best chef's knives available today. Many restaurants use them. They are made in the Solingen area of Germany (known for production of fine cutlery) and are available in several grades. The top grades have forged blades, which add to their strength and balance. The lesser grades are still head and shoulders above most anything on the market. All of the grades are well designed, and sharpen and hold an edge well. They are usually available through good cutlery and department stores, and are expensive but worth it if you take your cooking seriously. If you take care of these knives, you'll pass them on to your children.

J. A. Henckels Knives
Information **free** from:
Zwillingswerke, Inc.
1 Westchester Plaza,
Elmsford, NY 10523
or Whole Earth Access*

4" paring (31060-100)	$16.80
6" utility (31060-160)	$25.20
8" chef (31060-200)	$35.00
10" sharpening steel (32555-260)	$15.40

* Add $3 per order from Whole Earth Access.
Complete price list available on request.

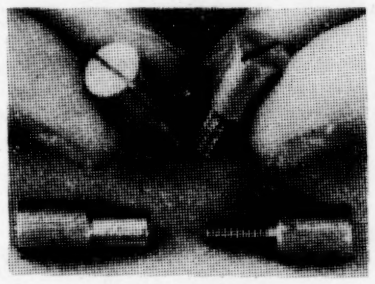
Atlanta Cutlery

JOSHUA NEWMAN: If you and a few friends pool resources, you can get good knives at a 40 percent discount from list price (on most items). The catalog is pretty and they stock a few well-known brands. About half of the catalog is devoted to supplies for folks who want to make their own knives. When I've dealt with them, service has been quick, and the goods exactly as advertised. They also have a toll-free phone number for ordering.

Difficulty: the "dealer" discount is available only for orders of 12 or more items totaling $60 or more to dealers with resale licenses, and putting together a dealer-size order can be hard.

•

"Gut Hook" Skinning Blade.
An excellent skinning blade with a "gut hook" whose inside edge can be sharpened which is mighty handy when opening up big game (you don't ever want to puncture the intestines or the gall bladder). The blade is 3" long and 1" wide with a superb skinning curve to it. The scale tang is preshaped with a pinky rest.
Order No. 5-CK-216 . . . . . $15.35 each.



Atlanta Cutlery Catalog
$1.50
from:
Atlanta Cutlery
911 Center Street
P. O. Box 839
Conyers, GA 30207
800/241-3595

•

Hidden Bolt Screw Rivets.
Each rivet screws together easily. No hammer blows necessary. Frequently used by makers of expensive custom knives for superior finished appearance. Screwdriver grooves get ground away in your handle finishing process — leaving a solid circle of metal that's easily polished on each side of your handle.

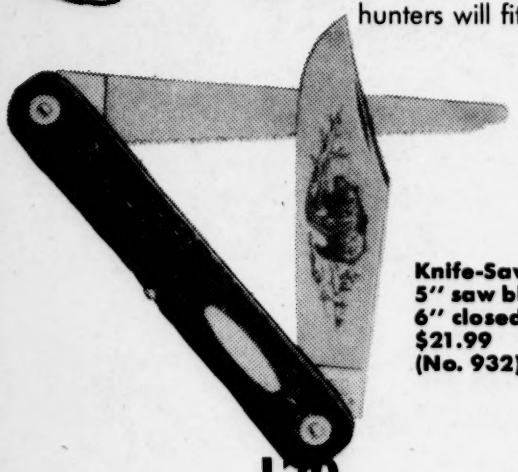
Smoky Mountain Knife Works

JOSHUA NEWMAN: Once you're on their mailing list, you get several newspaper-size catalogs a year, offering Schrade, Case, and Buck knives at between 30 percent and 50 percent off retail list. They peddle many other brands, imports, one-of-a-kinds, and just plain oddities as well, all at discount. Their minimum order is $15, shipping is speedy, and they have cheerfully accepted exchanges and returns (and refunded my money promptly). They have a toll-free number for orders.

Difficulty: you may be offended by parts of the catalog, which occasionally goes in for harsh racial or ethnic stereotyping. However, a tool is a tool. Many of the knives they sell are good tools (some are absurd), and their prices are the best around.

•

QUALITY LEATHER SHEATHS
This is the top of the line. These sheaths are quality made from No. 1 grade cowhide and they are available in 3 sizes and 2 colors. Sizes are as follows:
No. 1 — Any knife from 3½" to 4" closed will fit in this one.
No. 2 — 4¼" to 4½" knife will fit in this one.
No. 3 — 5" to 5¼" most any of your large folding hunters will fit in this one.



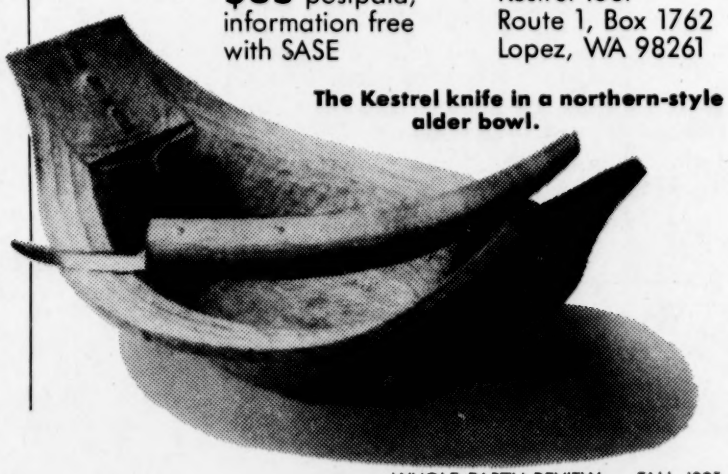
Knife-Saw
5" saw blade, 6" closed.
$21.99
(No. 932)

Smoky Mountain Knife Works
Catalog
$2
from:
Smoky Mountain
Knife Works
P. O. Box 430, Hwy. 66
Sevierville, TN 37862

Kestrel Crooked Knife

J. BALDWIN: This formidable woodcarving tool isn't really new in concept, but it recycles well in modern dress. A bit of experimental haggling shows that the knife is especially good at hollowing out concave shapes, has good steel, is a very useful shape, and must be watched carefully lest you carve your leg. The unfamiliar palm-up grip required takes a bit of getting used to, but the effort is well rewarded. Best technique seems to be just what the abundant instructions recommend: take little bites. We'd say it is one of those tools that "serious woodworkers should have in their toolbox." The handle can be carved (by another blade, dummy) to fit your hand. The steel is available separately as a kit.

Kestrel Crooked Knife
$35 postpaid;
information free
with SASE
from:
Kestrel Tool
Route 1, Box 1762
Lopez, WA 98261



The Kestrel knife in a northern-style alder bowl.

Dolan's Sports

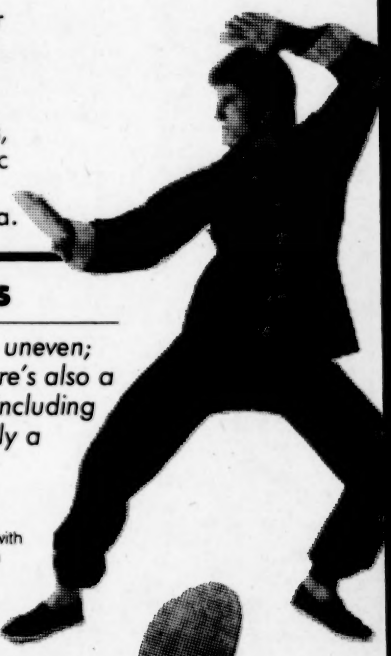
JOHN MICHAEL GREER: I've dealt with many of the martial arts mail-order houses and this is the best I've seen. Wide range of equipment and books from many different arts. All the equipment I've ordered from them (they manufacture much of what they sell) has been sturdy, well made, and worth its price. There's some garbage, of course, but far less than the other sources I've seen. They have a wonderful and rare (for this field) 30-day no-questions-asked refund/exchange policy.

Dolan's Sports
Catalog **free** from:
Dolan's Sports
P.O. Box 26
Farmingdale, NJ 07727

SAFE-T-FACE minimizes the danger of facial injuries and concussions. Reinforced, strong yet light in weight. comfortable. 3 sizes: L (most adults), M (young people), and S (very young people). No. 622 — $35.00

•

Rebreakable Boards save you money . . . can be used indefinitely! You'll never have to pay for pine boards again! And you'll never have to limit board-breaking practice because of expense. The remarkable new Break-Up Rebreakable Board is perfect for developing power, improving focus. You can break it over and over and over. After 1000 test blows, this unique board with its exclusive rebreakable joint (pat. pend.) showed no significant change in impact resistance. Breaking point remains the same as ¾'' pine board. Ideal for students, studios. Made of solid, high-density polyethylene plastic that really holds up.
$19.95 ea.; 2 boards: $18.95 ea.; 3 or more: $17.95 ea.



Cabela's

STEWART BRAND: What used to be mainly a fishing and hunting supply catalog is increasingly for clothing now. Nice prices, exceptional range of choices in each area — shirts, hats, coats, all manner of camouflage stuff, boots galore. Good price on the lightest and most comfortable of all casual shoes, the Rocsport.

Cabela's
Catalog **free** from:
Cabela's
812 13th Avenue
Sidney, NE 69160

•

Trebark Jacket and Pants
Sizes: S, M, L, XL.
908-901 — Jacket $29.95
908-902 — Pants $29.95
Sizes XXL, XXXL $32.95

•

These waders incorporate a removable 3/8'' wool felt liner, 13'' high; they will keep your feet nice and warm, just like a pair of felt-pack boots. These boots are not simply waders with a felt liner stuffed into them — the waders are formed on a special last so the liners fit perfectly, and so do your feet. We haven't scrimped on these waders; they are the highest quality. Cotton lined to relieve ''clamminess.'' Natural gum rubber sole for sure grip. Steel shank.

Hip Waders — sizes: 6-13. Whole sizes only.
793-937 — Camo $73.95
793-938 — All rubber $67.95

Asian World of Martial Arts

JOHN MICHAEL GREER: Their quality is more uneven; there's a lot more glittery trash for sale, but there's also a much greater variety of equipment and books including some good things Dolan doesn't carry. Definitely a buyer-beware situation, though.

Asian World of Martial Arts
Catalog **free** from:
Asian World
of Martial Arts
917-21 Arch Street
Philadelphia, PA 19107

KUNG FU UNIFORM
100% Cotton—Black uniform with White Buttons—**$39.95** each

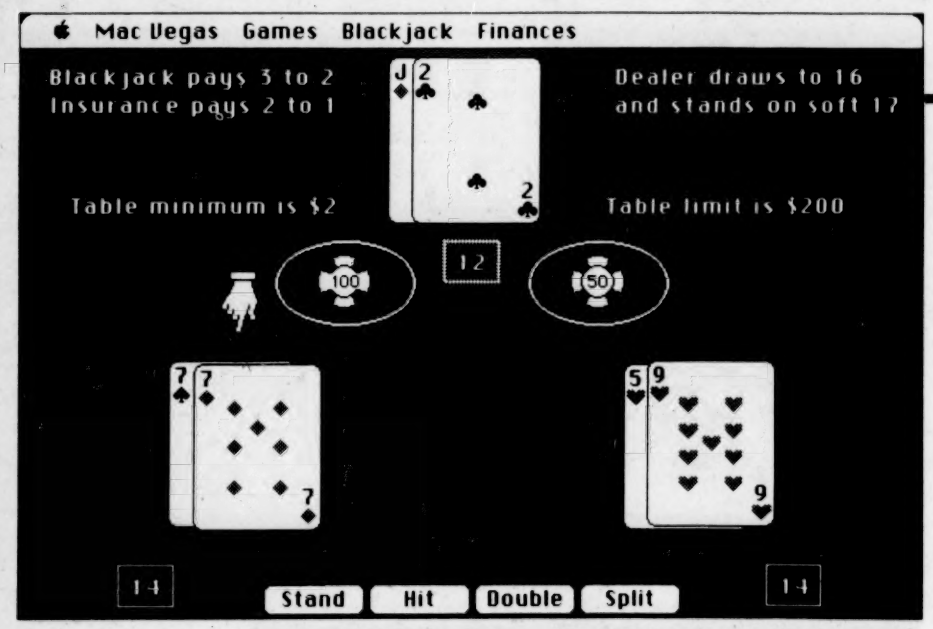
SIZE	STOCK#
Extra Small	**#2300**
Small	**#2301**
Medium	**#2302**
Large	**#2303**

WHITE SOLE KUNG FU SHOES
¼" thick cotton canvas soles with black canvas top
SIZES 3½-8—order **#240A—$4.95** pair
SIZES 8½-13—order **#241A—$5.95** pair

ComBow

J. BALDWIN: Today's slingshot plinker can't be satisfied with a hickory fork and inner-tube band, or even one of those wrist-braced jobs. Hi-tech has struck again: the ComBow has pulley wheels in the handle, giving an extra power boost much like a modern compound bow. As with the bow, the arrangement gives a longer, easier draw and enough hitting force to drop small game. (I personally prefer, as I have for 40 years, to shoot bottles. This'll even kill Coke bottles.)

ComBow
$50-$60
Catalog **free** from:
Beeman Precision Arms
47 Paul Drive
San Rafael, CA 94903



excellent advantage of Macintosh graphics and sound effects. I quickly learned to use the accelerated forms of the games, whizzing through scores of hands of blackjack and poker, watching the odds play out in a condensed, finally-understandable way. I learned lessons that would have taken weeks and thousands of dollars in Vegas Vegas. I also learned how to play the games after all these years — sparing someone the grim chore of spelling out baccarat's toney oddnesses to me live. With the program you get a fine little paperback, ***A Book on Casino Gambling****, which offers exceptionally good advice. ("The House take in keno is 25%. . . . You certainly should not spend any substantial amount of money on this game. . . . As far as blackjack is concerned, it is possible to devise winning strategies." The book gives three, and you can try them right out on MAC VEGAS.)*

MAC VEGAS offers an expensive gambling education that is cheap, fast, and fascinating.

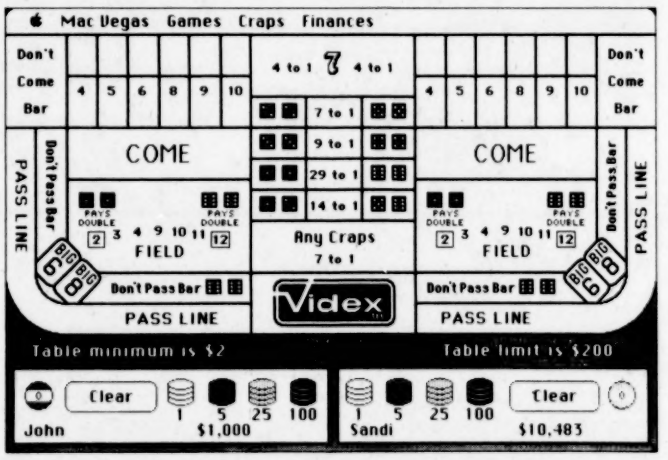
Gambling on the Macintosh . . .

MAC VEGAS

Version 1.1. Copy-protected. $59. Macintosh. Videx, 1105 N.E. Circle Blvd., Corvallis, OR 97330; 503/758-0521.

STEWART BRAND: As one who's always been bored by gambling, I was startled to find myself fascinated by this collection. MAC VEGAS offers blackjack, roulette, slot machines, poker (draw), craps, baccarat, and keno, each one in four different flavors ("casinos"). You start with a stake of $5,000 and are kept fully apprised of what's happening to it throughout play. Learning to manage your stake is one of the most immediate lessons of the program, one that immediately can be applied to real life — real gambling or real living.

The games themselves are superbly realized, taking



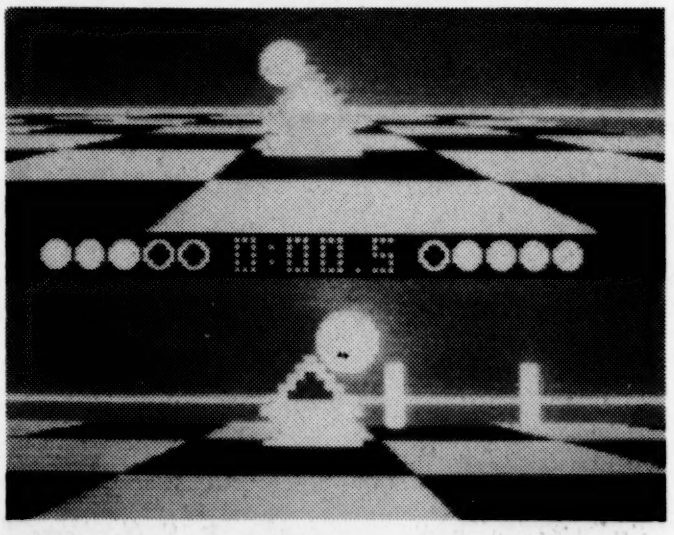
Buzz-blasting in force fields . . .

BALLBLAZER

Lucasfilm Games Division. Copy-protected. $29-$39. Atari. Requires joystick. Epyx, Inc., 1043 Kiel Court, Sunnyvale, CA 94089; 408/745-0700.

STEVEN LEVY: What we have here is sort of an interstellar two-player soccer, played at a high speed and higher adrenaline output. Best way to do it is against a friend — strategy gets psychological, and someone else is there to absorb your best tricks. In absence of that, the computer provides ample competition, from sluggish Droid One to just-about-unbeatable Droid Nine.

I earned my stripes against Droid One, who was a tough opponent until I learned the intuitive movements necessary to master the skills of "dribbling" with a force-field, dis-



The same combination of fantasy and pulp-inspired action that George Lucas brought to his Star Wars trilogy is embodied in BALLBLAZER, conceived and well-executed by Lucasfilm programmers.

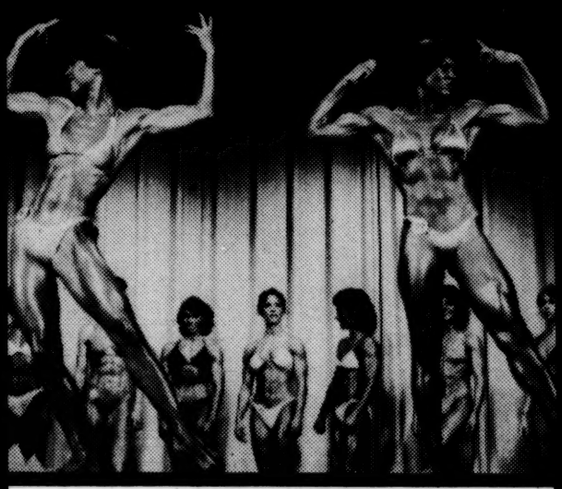
Matt Herron

cerning when a "roto-snap" turned me toward my goal, and most important of all, monitoring both my point of view (on the top of the colorful split-screen display) and that of my nemesis (on the bottom half of the screen).

*Something that the Lucasfilm people have worked out with BALLBLAZER is not available in this implementation, but worth mentioning. Using a system that averages the inputs from as many as 40 joysticks, the game can be played by large numbers of warriors. As many of us learned during a long session at the Hackers' Conference [****WER*** *#46, p. 44], teamwork is essential.*

Some Hackers' Conference participants join in a multiplayer session of BALLBLAZER. At home, BALLBLAZER emphasizes joystick skills, pitting you against a friend or the computer.

PRIZZI'S HONOR



PUMPING IRON

LADYHAWKE

GOOD MOVIES

by Sheila Benson

To get the proper bead on what director John Huston has done with **PRIZZI'S HONOR**, squint your eyes and imagine **The Maltese Falcon** done in the style of Italian opera and set in Brooklyn. As Charley Partanna, a dim but efficient hit man for a luxuriantly spreading Mafia family, Jack Nicholson is sublimely, miraculously funny. Watching an idea make its uneasy trip from somewhere behind his eyes to the tip of his tongue is one of the best shows in movies right now, and the notion of Nicholson and Kathleen Turner as a matched pair of all-business gunsels who fall head-over-heels in love is delicious. Outstanding among the nefarious Prizzis are the great and until-now-underappreciated William Hickey as their mandarin Don, and Anjelica Huston — in a sparkling performance — as one of their more devious offspring. This is vintage Huston: sly, knowing, uproarious.

★ ★ ★

I hope **LADYHAWKE** is still in your neighborhood; if it is, drop everything to catch it. This is the loveliest magic ever, this longing love story about a knight and his lady parted by a diabolical spell and brought together, in part, by a nimble young cutpurse (the droll, deadpan Matthew Broderick). Michelle Pfeiffer has possibly the most felicitous countenance a camera could hope for; Rutger Hauer is superb as her anguished, ardent knight, riding a charger who seems to have galloped straight out of German fairytale book etchings; and there's Leo McKern as a grizzled, sozzled friar. I'm not a great fan of Andrew Powell's music (although many are), but it's the only detail that's even slightly off: under Richard Donner's direction the costumes, the authentic Italian castle and forest settings, the photography are all magnificent, and the human-to-animal transformations are among the most satisfying yet, simply because they are not creakingly literal but play themselves out in our minds. And interestingly enough, for a film set in violent medieval times, the kernel of the story (by Edward Khmara) is of intelligence over brute force. A great, rousing, whole-family joy.

★ ★ ★

The ripe, dark British film **DANCE WITH A STRANGER** is based on a true case in the 1950s which, mercifully, I knew nothing about, so that the ending to this obsessional love story was a complete shock. (Occasionally there is something to be said for selective ignorance.)

Anyone could tell that trouble is brewing as white-blonde British bar hostess (memorably played by Miranda Richardson) falls so irrevocably for bad upper-class Rupert Everett; the trick is to tell from what quarter the trouble will come. Ian Holm is the third side of this dangerous triangle; under Mike Newell's direction the film seems to radiate the decadence and queasy moral climate of England in the 1950s. (It probably doesn't hurt that in many angles Richardson looks like Marilyn Monroe, or like a sort of compendium of Monroe lookalikes; however it is her searing, hypnotic performance which counts most.)

★ ★ ★

Don't be surprised if **PUMPING IRON II: THE WOMEN** provides you with a brand-new hero — Bev Francis, Australia's premier athlete who goes, before our eyes, from 181-pound power-lifting champion to 145-pound body-building competitor, is the film's greatest asset, as well as the sport's biggest stumbling block. It seems the judges in this eye-popping, Las Vegas-based event, the 1983 World Cup Championships, are in a hopeless wrangle over the question of Bev's muscles: has she developed them to an "unfeminine" degree?

You may feel that George Butler's film, with its preselected heroines and villainesses, puts great strain on the word "documentary," but it's unlikely that you'll be able to resist the mighty Bev. Disarmingly funny, with a diabolical sense of satire, Francis (and Carla Dunlap) emerge as smart and persuasive on the film's core issue: just what is feminine, anyway?

URBAN LEGENDS IN THE MAKING

Write Me if You've Heard This

illustrations by Simmon Factor

by Jan Brunvand

MY FIRST ROUND OF RESEARCH into the sources and analogues of American urban legends drew on conventional scholarly materials such as academic journals, books, conference papers, and communications with other folklorists interested in the same kinds of narratives. Urban legends are bizarre but believed stories; traditional (i.e., fictional) accounts, but told as true. They are often quite plausible tales, but also too good to be true. They supposedly describe things that have happened to a friend-of-a-friend, the source that folklore scholars call a FOAF. One of the classics of the genre, "The Vanishing Hitchhiker" legend, furnished the title of my first book on these stories [*WER* #46].

The urban legends I gathered there were the best-known ones, including tales of an expensive car sold cheaply because the smell of death permeates the upholstery, alligators lurking in New York City sewers, rats that get batter-fried along with the chicken in fast-food restaurants, convertibles filled with cement by jealous husbands, housewives caught in the nude while doing their laundry, pets accidentally cooked in microwave ovens, grandmothers' corpses stashed on cartops and then stolen, a hookman-maniac terrorizing teenagers parked on lovers' lanes, and so forth. I hate to sound too jaded about this delightful vein of modern folklore, but really folks, I've heard a million of them! In fact, I thought in 1981 that I had discovered and discussed all of the major American urban legends.

Yes, Virginia, these folktales really are true. We really believe them — for a while — which is long enough. That credibility gives them sufficient substance so we can disbelieve them later. After hearing these embryonic fables, I suspect that folktales of other cultures (other places, other times) force us to wear the same two-faced mask as these contemporary ones do — that of simultaneous belief and disbelief. We believe them, we tell others, we hear they are legends, we don't believe them, we're not sure, we believe they are stories people tell, probably it happened once, who really knows for sure?

If anyone does, it's Jan Harold Brunvand, professor of folklore at the University of Utah, who has been doggedly tracing the biographies of our own modern legends for years. Watch closely; the tales on these pages are just hatching. —Kevin Kelly

The response to my first book showed me how wrong I was. I had invited readers' contributions of new ones, and the floodgates were opened. I got letters reminding me of old legends that I had forgotten about (like "The Licked Hand," or "People Can Lick Too," that old slumber-party favorite). I was informed about urban legends circulating for decades that folklorists had simply overlooked (like "The Elephant That Sat on a VW," an old journalistic favorite). And I picked up a good number of "new" urban legends (like "The Hatchet in the Handbag," a story about a man in woman's clothing who tries to rob women in shopping-mall parking lots; this turned out, however, to be a century-old plot). The latest "new" legend of the early 1980s provided the title for my second book on urban legends, *The Choking Doberman*.

"The Killer in the Back Seat" is a good example of an old urban legend, widely believed but completely unverifiable, that continues to circulate in ever-varying versions:

This woman had to drive home alone late one night from a PTA meeting or something, and this guy in a pickup truck followed her out of the school parking lot and right down the street. He flashed his bright lights into her rear window, so she slowed down to let him pass. But he stayed right there, flashing his lights a couple more times. So then she sped up and ran a yellow light to get away from him, but he kept up with her, still flashing those lights. By then she was really terrified, but she was almost home. As soon as she got into her driveway, she locked the car door and leaned on the horn. The guy who had been following her had come in the drive right behind her, and he jumped out of his truck and ran up to her car just as her husband came running out of the house. Her husband was really mad, and he yelled "What's going on here?" But the guy who had been following her grabbed her rear door handle and yanked the door open and pulled this guy out of the backseat. And he said, "Look out! He's got a knife!" And when the two men got it away from him and called the cops, the man who was following her explained, "I saw him hiding in your car, so I stayed right behind you and flashed my lights every time he raised up and was about to stab you."

Or, if you prefer, the rescuer is sometimes described as a gas station attendant who talks a lone woman driver into coming inside the station; then he locks the door, and he tells her there's a guy hiding in the back seat of her car with a knife in his hand. Either way, and true or not, it's a story that teaches a worthwhile lesson in elementary car safety. It also has a nice counterpart in "The Babysitter and the Man Upstairs" legend, also about a woman rescued from an intruder who was hidden right on the premises with her.

Among the other legends treated in my latest book are those about a lump in the newly-laid carpet formed by an escaped pet canary, a urine specimen in a whiskey bottle that is stolen from a parked car, a child actor killed by ingesting pop rocks candy and then a carbonated drink, some travelers' pet dog that is cooked and served to them in a Hong Kong restaurant, a couple stuck during intercourse in someone else's sports car, and scores of others.

The patterns of plot detail and development that I observed were interesting. There are stories about cars, animals, horrors, contaminants, business ripoffs, fear of technology, suspicions against foreigners and minorities, belief in poetic justice, and the like. The "Cruise Control" legend combines several themes:

There was a Middle Eastern student up at the University who wanted to go camping — but in style! So he went to a dealer and ordered a really great van with every gadget and convenience he could get on it, including sleeping quarters, kitchen, bathroom, a full bar in the back, and so forth. It also came with cruise control, which he had never heard of before, so the dealer explained it to him. And the first time this guy went out camping, he got on the highway and he set his cruise control at 60 mph and stepped in the back of the van to mix himself a drink.

I assumed by now that I must finally have heard all of the urban stories going around, and then some. I found that most stories that were thought of as "new" by their tellers consisted largely of older motifs recombined and updated, and some of the mere rumors (unverified reports) got blown up into full-fledged narrative legends. This was all very interesting to a folklorist, but was it really part of an ongoing process of contemporary legend formation?

I soon relearned the old lesson that folklore never stands still to be stuffed and mounted, so to speak; urban legend creation and variation goes on. Presently I'm under way on my third book, with the cards and letters still arriving. Also, my students collect urban legends for me, journalists and commentators relay them, I've heard many new ones while traveling, and people tell them to me over the back fence, at the office, and at parties. This, of course, is wonderful and probably the only practical way to keep on collecting such stories. I've set up a filing system for "new" legends (though I'm thinking of computerizing), and I send thanks to and keep track of all my sources, who I regard as co-researchers in this noble endeavor.

A story that I have received from scattered sources — some of whom attribute it to a television talk-show guest — is the one I call "The Dog in the Highrise." Supposedly a man has a date with a woman who lives in a high-rise apartment, and she has a poodle that's running

How about it — will you write

THE MEXICAN PET

A couple traveling in Mexico adopts an emaciated, dehydrated, pitiful little Chihuahua they find in the street. After nursing it back to health in their hotel room, they smuggle it home to the States. Their veterinarian is horrified; he tells them it's a large diseased Mexican sewer rat.

THE SNAKE (OR GERBIL)-CAUSED ACCIDENT

A woman driver feels something creeping into her clothing; it is either a snake that has got into her car or a gerbil she is transporting that has escaped its cage. She pulls over, gets out, and starts jumping up and down, frantically trying to dislodge the animal from her pants leg, blouse, etc. A male driver thinks she is suffering a seizure and stops to help; he tackles her and tries to quiet her down. Another man sees them and thinks she is being attacked. *He* stops and socks man number one. Injuries ensue. Who is liable for the assault?

THE NUT AND THE TIRE NUTS

Found both as a published "puzzle story" and an oral legend. A motorist changing a flat accidentally loses the four tire nuts from the wheel. A mentally retarded person (perhaps an escapee from a nearby asylum) comes by and suggests a simple way to solve the problem. (What's the answer?)

THE JEWISH SECRET TAX

I don't know what to make of this label, pulled from a package of generic saltine crackers in a Midwestern supermarket, if it doesn't have some kind of rumor or legend behind it. I see a similarity to the traditions about the Proctor & Gamble trademark supposedly being a Satanic symbol.

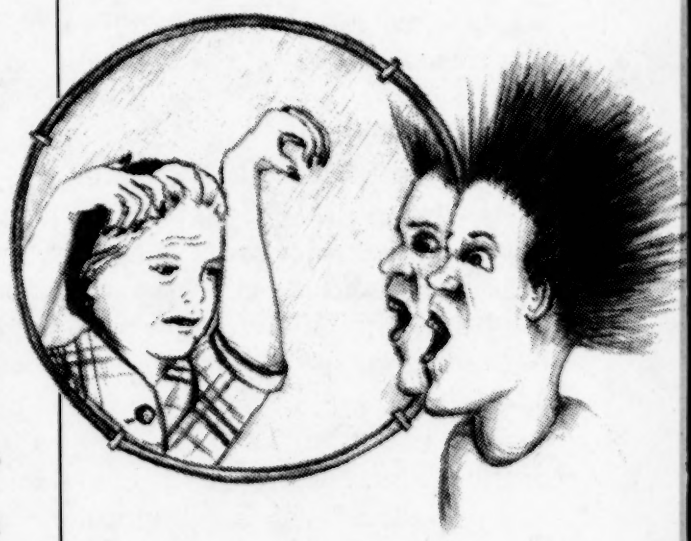
K — © — PARVE
JEWISH SECRET
TAX ON FOOD

THE GAY JESUS FILM

You are urged to sign a petition to prevent a film from being made or distributed that shows Jesus as a gay swinger. (I have only one copy of the petition so far.)

THE HELPFUL MAFIA NEIGHBOR

A man mentions to his neighbor that his house was burglarized, car was stolen, or the like. The neighbor tells him to relax and let him make a couple of telephone calls. Two hours later his property is returned.



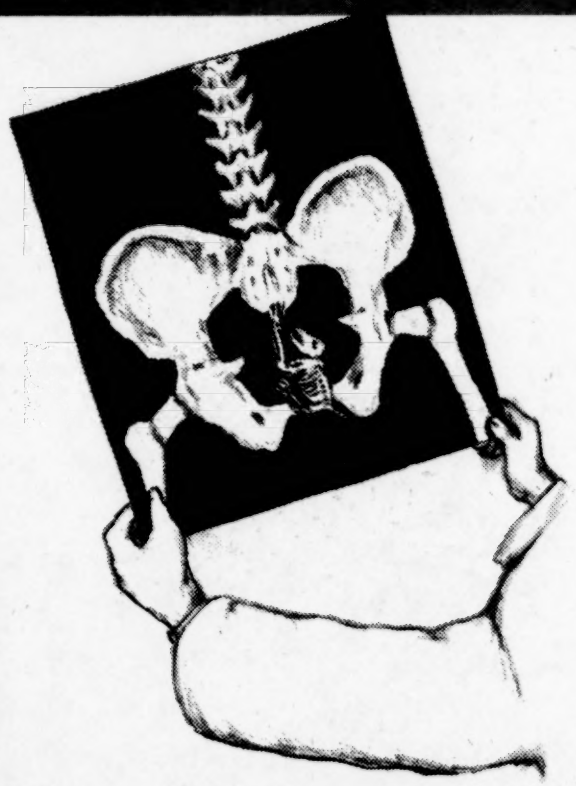
I BELIEVE IN MARY WORTH

Not really a legend, though some kids may know a story about it. You are supposed to repeat "I believe in Mary Worth!" a prescribed number of times while staring into a mirror. Mary Worth will come screaming out of the mirror to get you.

around and being friendly as the guy waits for her to finish getting dressed. The man picks up the dog's ball and tosses it across the room, and the dog fetches it. He tosses it again, a bit further, and the dog retrieves it again, eager for more play. So the third time the man gives the ball a harder toss, and it sails out the door to the balcony and bounces over the railing, falling to the street 36 stories down — with the dog right behind it all the way.

There follow here some capsule descriptions of rumors and legends-in-the-making about which I have minimal information so far. I would like to know who has heard these (or stories like them), when and where (approximately), and in what variations. Most of these items — my sixth sense tells me — are probably widespread legends; a few may be mere rumors (no plot), or local traditions (no broad distribution), and some of them may even be true. The titles are my own, invented simply to make reference easier and more systematic.

me if you've heard these?



THE COLO-RECTAL MOUSE

A gay man is brought into a hospital emergency room. He has something obstructing his colon which turns out to be a mouse (mouse *skeleton*, gerbil, hamster, etc.). He had used a greased plastic tube to insert it, for this is supposed to be the ultimate kick, and now he cannot retrieve it. When he tried, the animal's tail pulled off in his hand.

PULLING THE STRING

A young man who is lounging on a beach or dock idly pulls at the loose strings on his girlfriend's cut-off Levis. He gives one string an especially hard tug, and to their mutual embarrassment he finds that he has jerked out her tampon. (Reported to me just once, so far, but it's gotta be a folk joke.)

GREEN STAMPS

A woman on her way to an appointment with her gynecologist uses a public restroom which turns out not to have any toilet paper. She substitutes a tissue from her purse. The examining doctor discovers green stamps stuck to her person. He comments facetiously, and she sues him, changes doctors, has a good laugh, etc.

THE ANIMAL'S REVENGE

An animal is set afire or has an explosive tied to its tail; it dashes under a car or camper, into a house, etc. and destroys it. I mentioned versions about a coyote and a chicken hawk in *The Choking Doberman*, and I have later heard similar stories associated with bears, moose, kangaroos, and sharks. In some of these the animal steals something that was placed upon its supposedly lifeless body. I suspect there are more variations.

THE DECAPITATED PET

The family dog likes to ride in the car with its head sticking out the window. One day a truck passing too close clips the dog's head clean off, and the family drives on for several miles before anyone notices that Rover has lost something.

THE LOTTERY TICKET

A proud lottery winner passes his winning ticket around the bar for everyone to admire. When it comes back to him, it's another ticket.

THE BLUE BOOK

A student writes just a few minutes over the deadline on a final exam, and the proctor refuses to accept the blue book. "Do you know who I am?" the student asks. "No, and I don't care," replies the proctor. The student says, "Good!" and sticks his blue book into the middle of the pile, then departs smugly. ▶

THE TURKEY NECK

Someone inserts the severed neck from a dressed turkey into the fly of a sleeping man's pants. When his wife sees the cat nibbling at the protruding morsel, she screams and faints. (Known in England and Scotland, but what about the U.S.?)

THE WRONG TEETH

As a joke, a middle-aged man swimming in the ocean with his wife hands her his own false teeth when she loses hers and is trying to locate them in the surf. She tries them, then disgustedly cries, "No, these are the wrong ones!" throwing them far out into the water. (Sent from Australia, but is it known here?)

THE UNLUCKY CONTACTS

A man accidentally drinks down the contact lenses his girlfriend has left in a glass of water next to the bed.

THE VIDEOTAPED THEFT

Home videos of a posh wedding show a prominent member of the wedding party picking the pocket of the bride's father.

THE GIANT CATFISH

Divers are sent down to inspect or repair a dam on a midwestern or southern river. They come up very badly frightened, having found catfish the size of calves living in the warm murky water at the base of the dam. One diver's hair has turned white, and both refuse to dive in that reservoir again.

ANOTHER SNAKE STORY

A large plant delivered to a private home has a snake in it. This leads to a series of interrelated hilarious accidents, usually involving nudity.

THE GUILTY DIETER

A woman trying to stick to her diet is seated in a cafeteria near a table where a man has two sugar-donuts in front of him. When he leaves one of them behind, she yields to temptation, snatches it up and gobbles it down, only to be caught with sugar all over her chin when he returns with his coffee refill.

THE MOTHER'S THREAT

A harassed mom voices some terrible threat if the baby doesn't stop crying; then she goes to the kitchen to warm a bottle. When she returns to the baby's room her older child says proudly, "Mommy, he didn't stop crying so I . . . [did it for you]."

CLOWNS ABDUCT CHILDREN

News reports of this rumor exist from Cambridge, Massachusetts, in 1981 and Phoenix, Arizona, in 1985. Police in both cities denied the stories. I feel that it must exist elsewhere as well, something like the continuing rampant unverifiable rumors of child abductors cutting and coloring the hair of little children in an attempt to disguise them.

THE SECRET INGREDIENT

This one is hot lately. Cosmetics manufacturers supposedly put collagens made from aborted human fetuses into their products. Ugh!

THE DISHONEST NOTE

A guy comes back to his parked

car and finds that it's been dented. There's a note on the windshield that reads: "The people watching me write this think that I'm putting down my name and address, but I'm not."

THE FATAL FRATERNITY INITIATION

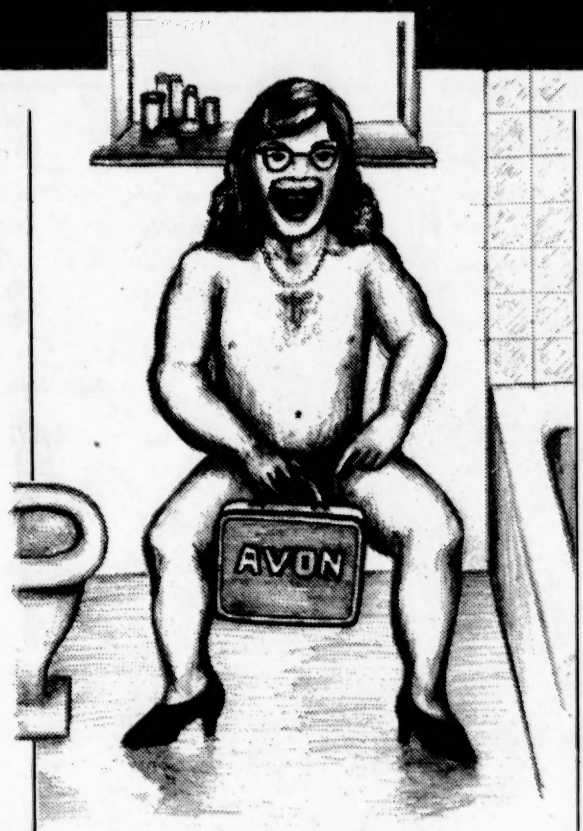
There are dozens of them: dutiful pledges who are locked in trunks and shipped to other towns — but who arrive on a holiday when baggage cannot be claimed. Pledges who are tied to railroad tracks, supposedly unused, but not this time. Pledges scared to death — literally — by other gruesome gags. Tell me yours.

MEDICAL STUDENT PRANKS

These usually involve a hand or other appendage removed from a cadaver in the dissecting lab. In one variant the hand with a quarter is extended out a car window to a toll-taker, who finds himself left holding both the hand and the coin as the car departs.

THE CABBAGE PATCH TRAGEDY

A Cabbage Patch doll is returned to the factory with a broken arm or leg for repairs. The owner receives back a death certificate, the doll in a little coffin, a bill for a funeral, a citation for child abuse, etc.



THE AVON FLASHER

A new Avon lady comes to call, and she asks to use the bathroom. After a long wait for her to return, the housewife goes to the bathroom to check. She finds a nude man waiting there for her.

THE ACROBATIC PROFESSOR

The funny old prof promises never to give a pop quiz until the day he comes to class over the transom. One day he *does* enter via the transom, drawing on his old skills as a former circus acrobat. Quiz time, kids!

DIAL 911 FOR HELP

In her haste and fright, a woman escaping her burning home with her children cannot manage to call for help using the emergency 911 code . . . because . . . she can't find the 11 on the phone dial.

THE SHOPLIFTER AND THE FROZEN CHICKEN

A person tries to steal a frozen chicken concealed under his hat and faints from the cold while standing in the checkout line. (Well-known in Europe, seldom reported here.)

Urban legend research requires not only such telegraphic accounts as I have supplied here, but full texts that are written out exactly as people tell them, if possible with information about when, where, and in what circumstances they were heard. Ideally, of course, the stories would be tape-recorded in a natural context, such as a beauty parlor, coffee break, car pool, cocktail party, or campfire circle. But even the bare record of these and other similar stories, as remembered from some earlier telling, is useful to the folklorist in plotting distribution and variation. It's also very important to get dated published or broadcast accounts of urban legends. And there's nothing like a "new" legend to make my day, even if it turns out to be another old story in an updated form. So if you've heard these or similar stories told about friends-of-friends, and they seem too good to be true, then they probably are urban legends that I'd like to know about. Please send them to me at this address:

Professor Jan Harold Brunvand
Department of English
University of Utah
Salt Lake City, UT 84112 ■

It's a strange sensation to have participated in (and maybe helped perpetuate) an urban legend. The idea for "Computer Date" originated with George DiCaprio, the legendary founder of Greaser Comics. *George was pulling together material for an underground comic among cartoonists living in New York, and suggested I draw up this story. He admitted he had just heard Truman Capote tell the joke on the* Tonight Show, *and considered it a good yuk up for grabs. I rewrote the script a bit, drew it up, and turned it in. This was in 1972. The comic book it was intended for never materialized and George disappeared with the strip. I finally got it back from him in 1975 and sold it to Denis Kitchen, who used it in* Snarf Comics *#6, which was finally published in February 1976. None of us ever imagined the story might one day be considered a true tale.*

—Jay Kinney

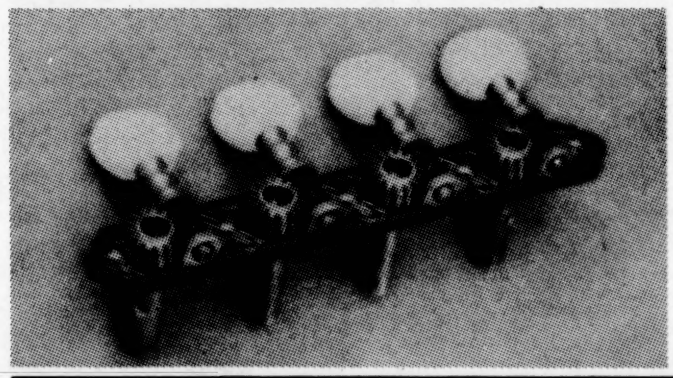
Computer Date
LONELY PEOPLE IN BIG CITIES FIND THEMSELVES IN MANY STRANGE SITUATIONS, IN THEIR SEARCHES FOR CONVIVIAL MEMBERS OF THE OPPOSITE SEX! Computer Dates FOR EXAMPLE...
BBBZZZZZZ
HMM... I WONDER IF THIS'LL LOOK ALR... OHH!!
Words: DICAPRIO & KINNEY Art: Kinney
HELLO GERALDINE... ...I'M RALPH... THE COMPUTER GAVE ME YOUR ADDRESS
COME IN!
I'LL BE ANOTHER MINUTE DRESSING, RALPH! WHILE YOU'RE WAITING, PLAY WITH KING! HE'S MY DOGGIE!
UH... SURE!
HERE KING! ...GO FETCH!
YOU KNOW, RALPH... SOMETIMES I FEEL SO ISOLATED... 20 STORIES UP IN THIS HIGH-RISE...
ATTA BOY!
BUT KING KEEPS ME COMPANY... I LOVE KING MORE THAN ANYTHING IN THE WHOLE WORLD!
KING PROTECTS ME FROM HARM...
GO KING!
BAP
HE CHEERS ME UP WHEN I'M FEELING DOWN...
BIP
HE'S LIKE A REAL PERSON TO ME WITH HIS OWN PERSONALITY!
HE LIVES JUST FOR LOVE... AND THAT'S REALLY WONDERFUL...
WWWWWEEEEEEOOOOOOOO
SPLAT!
DON'T YOU AGREE, RALPH?
RALPH?
THE END

©COPYRIGHT 1975 JAY KINNEY

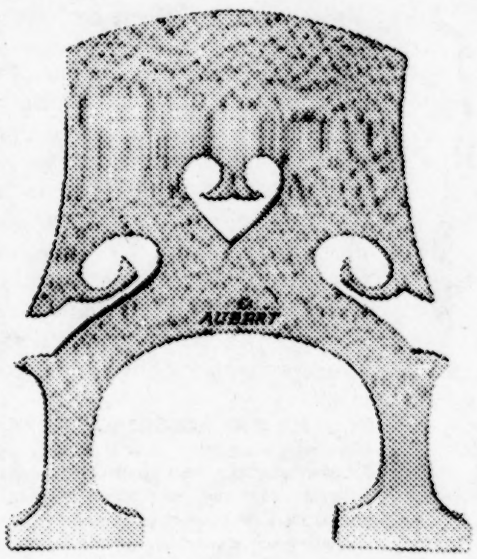
Vitali Import Company

JAMES STOCKFORD: Do you need a chin cup for a violin? How about a cello peg? Vitali imports a wide range of specialized tools, materials, and supplies for violin and guitar makers. Their catalog lists tools such as clamps, cutting knives, miniature planes, materials like horse hair, and instrument parts such as backs, necks, fingerboards, and so on.

They also sell an unusual selection of books, many of which focus on the repair and construction of various stringed instruments, others of which include indexes of instrument makers of the world and museum collections of musical instruments. Their return policy reads a little hard-nosed, but is reasonable.



Violin Makers' Supply Catalog, Guitar Makers' Tool Catalog
$3.50 each
Orchestral Stringed Instrument Catalog, Book Catalog
free from:
Vitali Import Company
P.O. Box 249
Maywood, CA 90270



- *Mandolin Machine Heads.* Hand engraved, burnished, oxidized brown. Set $16.00

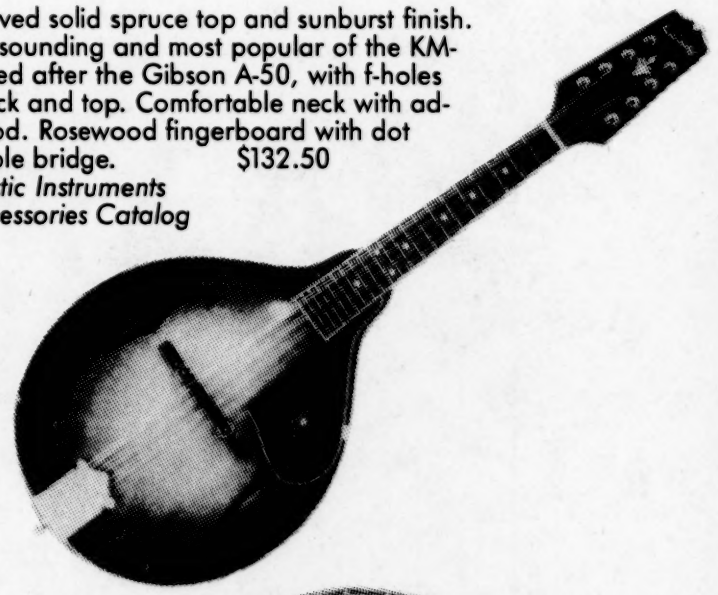
- *Cello Bridges.* "Aubert" Model * select maple * 4/4, 3/4, 1/2, 1/4, 1/8 . . . . . 12.00 ea.

Elderly Instruments

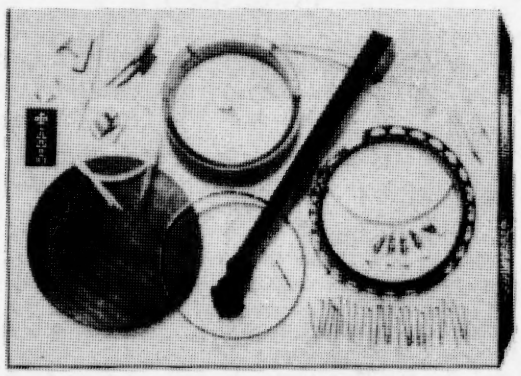
JAMES STOCKFORD: If the Lord came down and told me she was going to zap all guitar stores into extinction except for one and that I should name the sole survivor, I guess I would have to name Elderly Music. They sell just about any stringed instrument you'd want — guitars, dobros, mandolins, banjos, and so on, with spare parts, accessories, and gizmos — and Elderly is the only place I know of that sells used instruments by mail. Each of their four catalogs is thick, with small print. They have the biggest, best selection of American folk music books and records that I've seen, and I used to wholesale the stuff.
[Suggested by Warren Allen]

- *Kentucky mandolins* are the best imported mandolins found. Made by Saga in Japan, most of these instruments feature high quality workmanship and sound for their price.

KM180S — Carved solid spruce top and sunburst finish. This is the best sounding and most popular of the KM-180 series. Styled after the Gibson A-50, with f-holes and arched back and top. Comfortable neck with adjustable truss rod. Rosewood fingerboard with dot inlays, adjustable bridge. $132.50
— Acoustic Instruments & Accessories Catalog



Elderly Instruments
Instrument Catalog,
Book Catalog,
Record Catalog
$2 each
Electric Guitars and Accessories Catalog
$1 from:
Elderly Instruments
1100 North Washington
P.O. Box 14210
Lansing, MI 48901



- *The Natural Blues and Country Western Harmonica/ A Beginner's Guide* by Jon Gindick.
Used by our local community college as the text in their class. 128 pp. 01-400000 . . . . . $5.05.

- *Civil War Songbook* by Richard Crawford.
156 pp. 11-15 . . . . . $5.10.

Famous Negro Spirituals by Hugo Frey.
48 pp. 10-84 . . . . . $3.35.

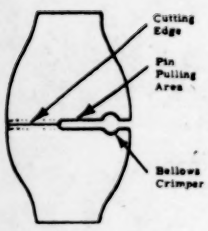
A Folksinger's Guide to Grassroots Harmony by Ethel Raim & Josh Dunson.
94 pp. 01-000004 . . . . . $5.05
— Books Catalog

- Eagle Banjo Kits
In our experience, these are the best kits on the market today. High quality parts and workmanship — excellent quality control. All of the hardest work is already done for you.

Standard Kit (open back) $236.00
Standard Kit (resonator) $295.00
Also available left-handed at no extra charge (allow two weeks).

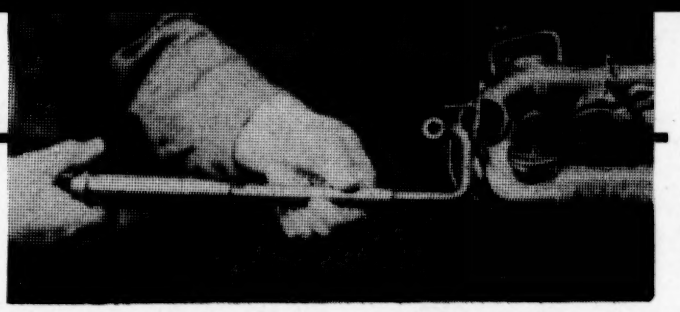
Ferree's Tools

JAMES STOCKFORD: Ferree's advertises as the "World's Largest Band Instrument Repair Tool Manufacturer." Their 138-page catalog lists unusual tools, most of which they make themselves, for the repair of such hard-to-fix instruments as saxophones, trumpets and oboes. Where else can you get a tool for undenting a tuba? A lot of these tools are good for any kind of metal work. The catalog itself reads like a family photo album, spelling out their money-back return policy, shipping charges, and company history. A separate sheet lists the lowest prices I've ever seen for this kind of craftsmanship.



◄ E13 3 WAY ACCORDION PLIER
One edge of plier jaw is designed to crease bellows corners. Center section has round lips with beveled hole enabling plier to remove accordion pins without marring pin or accordion. Other edge of plier is a nip nose cutting plier for nipping off accordion rods in the bass mechanism.

TROMBONE WATER KEYS ►
Use 593A spring. Complete assembly $3.75



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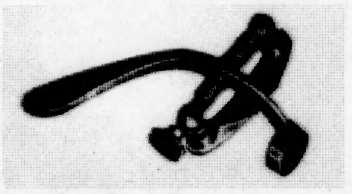
SAX BODY DENT REMOVER
Comes with 2 arms, 3 heads for removing dents from saxophone bodies by internal hammering, which can be controlled from the outside of the instrument. Will work on bow or any part of the body.

Price includes two different length arms and three interchangeable heads. $43.45



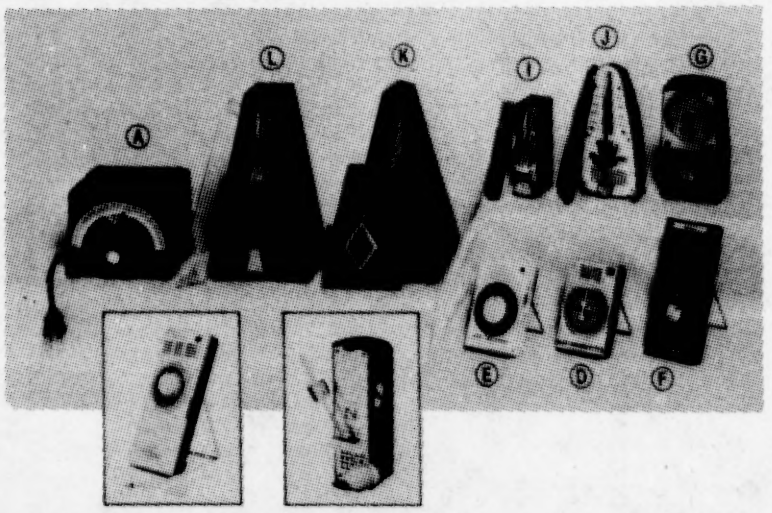
Ferree's Tools

Catalog **free** from:
Ferree's Tools
1477 East Michigan Ave.
Battle Creek, MI 49017
800/253-2261

Shar Products

JOHN HOLT: The Shar mail-order company sells stringed instruments, bows, and everything connected with them — cases, strings, bow hair, bridges, tuners, pegs, stands, metronomes, and rosin, all at prices substantially less than one might expect to find in music stores. The musicians I know who use the catalog swear by it. The stuff I ordered from them came quickly and well-packed. They're a good outfit.

I particularly recommend one product they sell: Kolstein's rosin, which is much better than Hill's, the more commonly found rosin.



FRANZ ELECTRIC METRONOMES

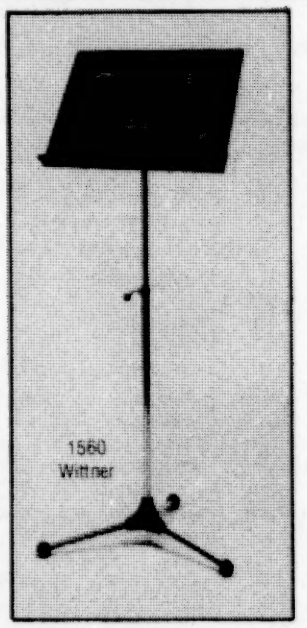
	Standard model			Flash-beat model		Each List	SHAR PRICE
Ⓐ	1151	Plastic case	42.95 / 36.50	1152	Plastic case	47.95	40.75
	1151M	Mahogany	54.95 / 46.70	1152M	Mahogany	59.95	50.95
	1151W	Walnut case	54.95 / 46.70	1152W	Walnut case	59.95	50.95

BATTERY METRONOMES (9-volt battery included)

Shar Products

Catalog **free** from:
Shar Products Company
P.O. Box 1411
Ann Arbor, MI 48106

•
Wittner studio stand
Walnut veneer desk, heavy nickel-plated tubular steel, folding legs. Elegant modern design. Adjusts from 26" to 48".
[List] $100.00
Shar price $75.00



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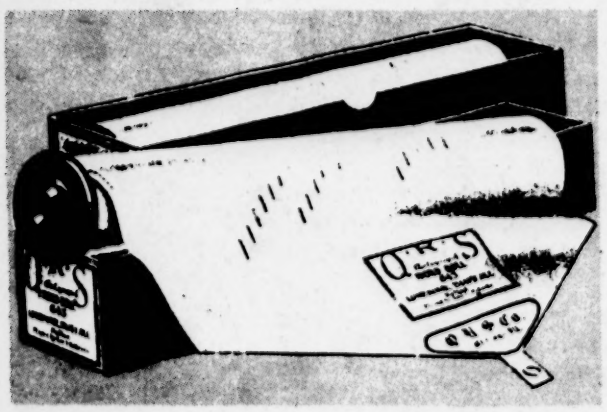
[Sheet music]
DOUBLE BASS SOLO
BACH, J. S.:
6 Cello Suites (Sterling) Nos. 1, 2 and 3 . . . . . $ 7.50
BILLE, I.: New Method for the 4 and 5 String Bass
Vol. 1 — First Practical Course Book in Theory . . 15.50
GIUFFRE, J.: Jazz Phrasing and Interpretation (Aspects of Jazz Performance) Bass Instrument Book 7.95
KREUTZER/SIMANDL: 18 Studies (Zimmerman) . . 6.00
NANNY, E.: Complete Method, Volume 2 . . . . . 16.50
Etudes of Kreutzer and Fiorillo 23.50

•
VIDEO TAPES
Ivan Galamian. Color. 40-50 minutes. VHS or BETA II.
Volume 1: *Bowing strokes, scale system practice methods. Bowing combinations, colle, martele, etc.* $120
5 Volume Set $550



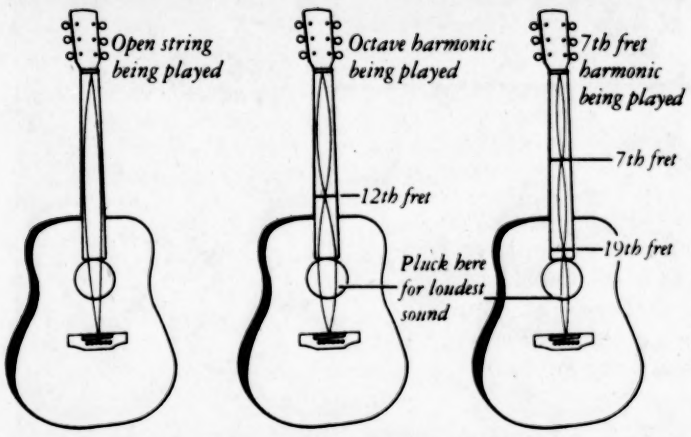
QRS

JAMES STOCKFORD: QRS sells piano rolls — old-fashioned paper software for your player piano. Their catalog includes thousands of tunes: ragtime, country-western, sacred, Broadway, standards, and special collections styled by piano-playing celebrities such as George Shearing, Earl "Fatha" Hines, Peter Duchin, and others. They've been rolling since 1900.

QRS Music Rolls

Catalog **free** from:
QRS
1026 Niagara Street
Buffalo, NY 14213

•
Sounds of the 20's
Q-159 Mr. Jelly Lord
Played by 'Jelly Roll' Morton
Q-169 Moonlight and Roses
Played by Harold Scott
Q-119 My Man
Played by Pete Wendling
Q-128 Nervous Blues
Played by James P. Johnson
Q-139 Nobody But My Baby
Played by Thomas 'Fats' Waller



The Guitar Owner's Manual

BLIND LEMON DONNELLY: In 20 years of messing around with guitars, I never learned the sensible way to tune, string, or maintain one until this excellent book turned up.

***The Guitar Owner's Manual** is basic, specific and conservative. And condensed — given the amount of hard information to be found in only 107 pages, it's amazing that it doesn't read like a parts list. Instead, Will Martin's style is relaxed and sympathetic; I think that contributes a lot to quick retention of the points he makes.*

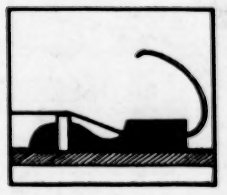
*John Muir Press, the publishers, have sold who-knows-how-many copies of **How to Keep Your Volkswagen Alive**, and rightly so — it's the best universal automotive manual ever. It's very fitting that **The Guitar Owner's Manual** has joined it.*

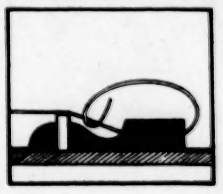
Martin mentions in his afterword that, should JMP get enough requests for a Will Martin Guitar Method book, he'll trot one out (it sounds like it was written but got cut from the manual). I want it!

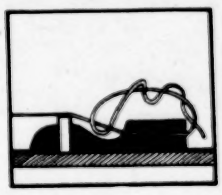
•

The strings [on classic and flamenco guitars] usually have plain ends that are anchored on a tie block. This tie block is merely a raised, rectangular section of the

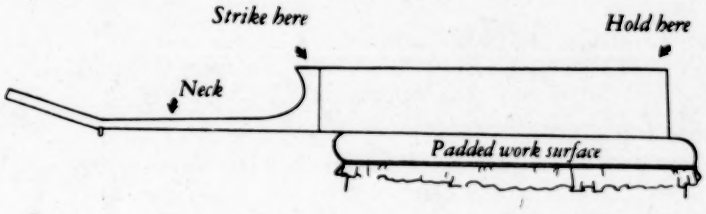
The Guitar Owner's Manual
Will Martin
1983; 107 pp.
$8.65
postpaid from:
John Muir Press
P. O. Box 613
Santa Fe, NM 87501
or Whole Earth Access







bridge with holes drilled parallel to the top of the guitar.. Stick the string through the hole, bring it back over the tie block and wrap the end under the string where it first went *into* the hole. Now bring the string back over the tie block and tuck it under the string where it first came *out* of the hole.



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If you own a cheap guitar with a loose neck joint which you cannot afford to have repaired by a pro, proceed as follows:

You need to take off the strings, pry off the fingerboard (at least get it free of the body if not the neck), then lay the guitar, top down, on a padded work surface. I use a dining room chair. Pound on the heel with a mallet, using a pad (a book works nicely) to prevent marring the heel.

The neck will slide out of its slot with a lot of horrible crunching sounds — the guitar body still amplifies sound. You then need to clean out the joint, chiselling out splinters and excess glue. Get some veneer to use as shims for the *sides* of the slot to make the joint *tight* upon reassembly.

More Homespun Tapes

KATHLEEN O'NEILL: You've had your fiddle long enough to play a few songs, but you really wonder how those Irish players get that certain sound. Well, Irish fiddle master Kevin Burke might not be available for private lessons, but you can get the next best thing — his lessons on tape. You choose the time and place, and you will never be embarrassed by not having practiced enough at your next lesson.

Six 60-minute tapes and accompanying sheet music take you from simple hornpipe tunes to elaborate reels with ornamenting grace notes and rolls. The tapes play each song slowly, naming notes and repeating sections, so even if you don't read music you can follow along.

In addition to songs there are lots of helpful playing hints, encouragement, and information on where to hear other versions of the material.

JAMES STOCKFORD: I don't play fiddle, I play halting ragtime blues piano. Homespun puts out an instructional tape by Dr. John, the Night Tripper. Like the fiddle tape, Dr. John's instructions start out simple and add details one at a time. As he teaches, he talks, and I get a neat feeling like I'm sitting with him on the same bench.

*Since we first reviewed Homespun Tapes (**CQ** #41, p. 116) the proprietors have firmed up a new direction. Originally folk music specialists Happy and Jane Traum produced most of the teaching tapes they sold. Now they offer courses by internationally known instrumentalists. In all, they provide audiotape and videotape music courses for more than sixty folk and acoustic instruments, including the pennywhistle. There's even a video cassette that teaches guitar set-up and repair.*

Homespun Tapes
Catalog **free** from:
Homespun Tapes
P.O. Box 694
Woodstock, NY 12498

Paul Butterfield, John Sebastian

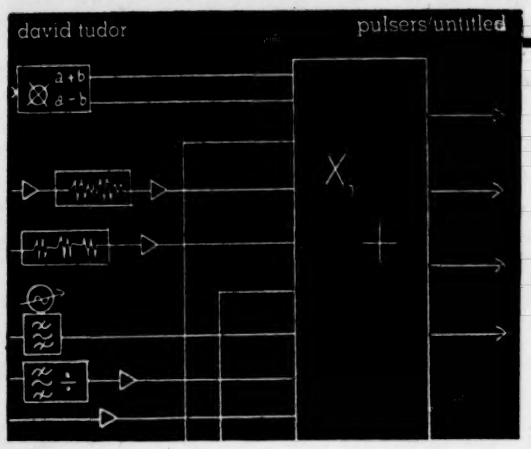
•

Blues Harmonica
taught by John Sebastian and Paul Butterfield
John Sebastian starts at the beginning, teaching on the first three tapes the rudiments of playing, concentrating on the mechanics: tonguing, breathing, reed bending, vibrato, etc. In an amusing, informal manner, he shows a number of licks and instrumentals while providing you with the tools to go on to more advanced playing.

Paul Butterfield picks it up where John leaves off, and on tapes 4-6 you'll discover the way a great bluesman thinks about his music and his instrument. Paul discusses the finer points of technique, including some advice about electric harp.

Price: $12.95 each. $65 for the entire series of six, plus postage.

Joan Richie teaches traditional Mountain Dulcimer.



Recordings of Experimental Music

JAMES STOCKFORD: No more can I kick the dust and complain that there's nowhere to find new music. Here are two magazines that keep abreast of the latest hard-to-find music releases. ***Recordings of Experimental Music*** *focuses carefully on the work of schooled or established composers, while* ***OPtions*** *brings news in by the fistful of wilder, back-alley efforts.*

The self-described mission of ***Recordings****: "We review records and tapes of experimental music, and cover such ground as contemporary classical, electronic music, minimalist music, new rock, unusual jazz and anything else that could be considered avant garde or adventurous. In so doing we are encouraging the exposure and availability of experimental music and independent record labels."*

Recordings of Experimental Music
Thom Holmes, Editor
$9/6 issues from:
Recordings
104 Fern Avenue
Collingswood, NJ 08108

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ANAGENIC John Wiggins
Anagenic (1984). Cassette available from John Wiggins, 15 Reservoir Avenue, Northport, NY 11768 U.S.A.

John Wiggins spent 14 months assembling this loving collection of compact electronic pieces. He works with sounds that are purely electronic as well as modified natural sounds. What is most intriguing is that each piece leads naturally into the next through a development of free association in sound. Common musical material is used to bridge the transition from one work to the next with the same ease of visual association that captivates your mind just prior to sleep.

There is a general avoidance of traditional musical composition on this cassette. Instead, Wiggins employs the tight, cohesive forms that are common to classic musique concrete to shape audio pictures and develop interesting portraits in sound. Rhythm and chords occasionally creep into the work, but the strengths of the music lie in the more mysterious sounds that are derived from non-musical sources. Wiggins' free association in sound is nurtured very carefully and results in dozens of complete transformations in texture over the course of the tape.

— Thom Homes, *Recordings of Experimental Music*

OPtion

KEVIN KELLY: The most interesting service of this recently revamped magazine (formerly named ***OP*** *—* ***NWEC*** *p. 484) is that it reviews and gives addresses for small-label cassettes of weird new music like "noise tapes," trance music, rants, experimental sounds, and just plain wacky music that makes punk tunes sound like golden oldies. With high quality recording gear so affordable, any garage can be a center for never-before-heard music, bending your notion of what can possibly be music. This fairly hefty magazine also keeps tabs on personally affordable music synthesizers, currents in avant-garde music groups, and the latest in strange music albums and books.*

•

MINOY: *Lunar Eclipse/Chinese Reflecting Pool*
"Lunar Eclipse" maintains the sensation of overcrowding and paranoia for over 20 minutes, "Chinese Reflecting Pool" is a bit more sparse and pentatonic. The synths could be wooden flutes. Well-recorded on chrome tape. (923 W. 232 St., Torrance, CA 90502. $6 postpaid) — MS.

JUSTIN SARAGOZA: *Ode to Sammy Davis Jr.*
This eccentric (but nice) tape was "recorded as an improvisation for any instrument and a prepared tape." Basically, it's a lot of noodling and experimentation with a solo electric guitar. What the tie-in with Sammy Davis Jr. is, I'm not sure of, since the music here bears no resemblance to his, but this tape makes for pleasant listening. No price listed, so it seems this might be a good contact for all the tape swappers out there (but write first). (4855 W. Warm Springs, Las Vegas, NV 89118. One-sided C60) — BM.

OPtion
Scott Becker, Editor
$12/year
(6 issues) from:
Sonic Options Network
P.O. Box 481034
Los Angeles, CA 90049

The Art Ensemble of Chicago.

37 PINK: *Corrective Justice.*
The thing I like about noise bands is that they force listener participation. Like, is the noise coming out of my speakers what the band recorded on the tape or is it the sound of my cassette deck going berserk and shredding the tape? 37 Pink is a hardcore noise band. Rhythmic, pulsing white noise/static combines with high-pitched oscillation to form a spacy industrial background, upon which muffled vocals and tape loops are sometimes overlaid. If you're curious about noise bands, this is a good and inexpensive place to start. (Box 55502, Tucson, AZ 85703-5502. C45, $4) — BM.

MOSTLY OCEAN.
Interesting and enjoyable acoustic (and some electric) guitar improvisations in cyclic structures, with diagrams instead of names, plus some ensemble music (with percussion, bass, keyboard, vocals). (172 Murray St., Binghampton, NY 13905, C46. $6)

BACKSCATTER

Echoes from readers back to the *Whole Earth Review* (27 Gate Five Road, Sausalito, California 94965)

Disqualifying Canada

Your article "A Juvenile Democracy (*WER* #47, p. 1), mentions Canada as qualifying as a democracy, along with Great Britain and Sweden. I would like to believe this, being Canadian. Unfortunately, or fortunately, the facts are otherwise.

The Native Indian population of Canada was denied the vote in this country until the 1960s, I believe.

The second sad fact was the treatment of the Japanese Canadians during most of this century, particularly around the time of the Second World War. *All* their rights were taken away, a story similar to what happened in the U.S. at the same time.

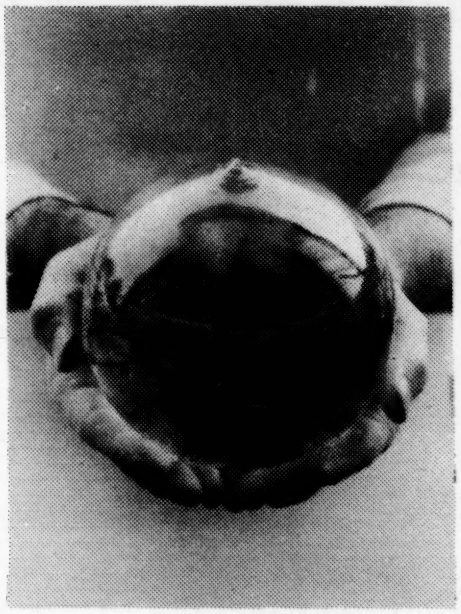
Barbara Hay
Ladysmith, British Columbia

Homebrew ecosphere

In "The Ecosphere" (*WER* #46, p. 28) Peter Warshall mentions the pains taken by technicians who put self-sustaining life systems in little glass globes. But this sort of thing can be done quick-and-dirty. At least, it was done that way once. The little world so produced was thriving after eleven years.

In 1971, I was writing teacher's guide materials for an elementary-school science textbook series. The primary authors had written a bit about natural ecosystems, and, naively, bade the students to make their own "in an aquarium or big jar." Wanting to prove it couldn't be done — "It would be a wild fluke if they got the right balance" — but hoping it could be done, I snatched up a specimen jar (like the jars supermarket herring fillets come in, but with a plain black lid) and dashed outside. The lawn had been mowed, and it had rained. I put a few pinches of grass cuttings in the jar, found a puddle and scooped up some water, added a pinch of half-decomposed leaf duff from under a hedge, capped the jar tightly, and set it on an office windowsill.

In a few days the water turned pale green: algae blooming. In a couple of weeks there was a compact, opaque cloud of dark green algae surrounded by nearly clear water. And — several slowly motile specks. A ten-power magnifier showed nondescript segmented "worms" a few millimeters long, crawling in the algae or wiggling along the glass bottom. Magnifier and



jar in hand, I toured the offices of the science editors and asked them to tell me what they saw. "Algae and funny little worms."

After about three years I took the jar home. It sat on a garage shelf near a window. Every year or two I checked it in bright lights. Yes, the algae. Yes, a few tiny, lively worms. In 1980, my wife said the marriage was over and threw me out. The jar stayed.

In 1982 Wife Emerita staged a garage cleanout and warned me to retrieve my remaining junk. The jar was there, algae, worms, and all. We opened it and gingerly sniffed: the contents smelled fresh as the great outdoors. I recapped the jar and notified everyone present that I wanted to take it home. But somehow the jar got trucked away with the jetsam. The end of a world.

Nicholas Rosa
Campbell, California

Environmentalist = escapist

The problem may be that there are too damn many preservationists and too few environmentalists in the "environmental movement" in the 1980s. In the urban East, especially, there are too many "environmentalists" who fret over community aesthetics, property values, and the bad manners of the hoi polloi, while closing out low-income housing in order to make way for luxury condominiums. In the Boston area, the high-income suburbs that make the most noise about conservation and "no-growth" are, much too often, the same towns that stubbornly resist proposals for inexpensive housing. Often, the demand for "preservation" seems to be another subterfuge to keep "the hordes of the unwashed" at bay.

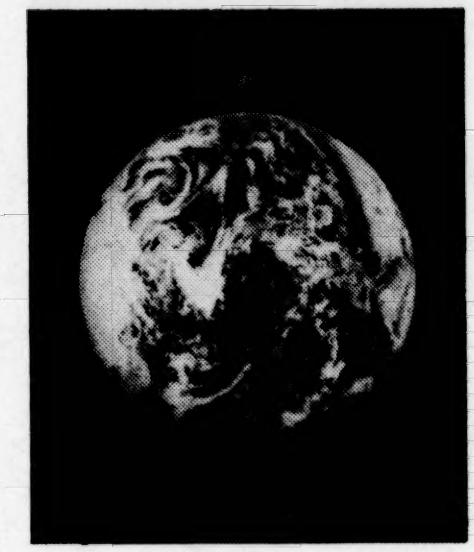
In the city, the new breed of "urban environmentalists" are often the trailblazers for "gentrification." In the ghettoes of Detroit, "environmentalists" are sometimes referred to as "the moldings people." A tenants organizer provided me with an explanation of the term: "We show these people a run-down slum where five families are living in space for three, and all they can say is "My God, look at those moldings!" Scrape off the pigeon shit and tear out the interior. In a year, the city will have a new Laura Ashley shop and a gourmet yogurt stand. "We saved a great set of moldings, right?" Fine. But how many "environmentalists" bother to assess the human impact of "urban conservation"?

In my years as a Sierra Club functionary in San Francisco, I heard far more said at Board of Directors meetings about Alaskan caribou than I heard said about environmental conditions in nearby Chinatown. Dave Foreman of Earth First! proposes to send Sierra Club staff on wilderness expeditions in order to gain an appreciation of "the environment." Well, there's a lot of "environment" and plenty of "nature" to experience outside of the Rockies. Instead of having young professionals move into the mountains for two weeks, why not provide staff with two weeks experience in "roughing it" on a minimum-wage salary in the poor part of town? And if staff members want to live "close to the earth," why not provide opportunities to live and work with farmworker families during harvest season? Cut the bullshit and the elitism and the escapism out of "environmentalism." Let "environmentalists" experience the American environment in the same way that it's experienced by millions of low-income Americans. Perhaps the sojourn will foster a new sensitivity and a new set of priorities and values within "the environmental movement."

Martha Burning
Boston, Massachusetts

Soviets take over whole Earth

Yaakov Garb ("The Use and Misuse of the Whole Earth Image," *WER* #45, p. 18) throws out the baby with the bath water. I don't doubt that popular American culture *does* debase, trivialise, commercialise, and otherwise misuse the whole Earth image, but hell, that holds true for most



good things taken up by American culture, from Mozart to sex, and says more about the culture than the intrinsic value of the victims of its manipulation.

WER readers might like to know that the whole Earth image is being put to good use in at least one part of the world, and no small part either: a society spread out over one-sixth of the Earth's land surface, the country that pioneered space travel — the Soviet Union. In Soviet usage the blue planet symbol both represents and encourages the growing body of opinion which accepts the reality behind the metaphor: just as Garb points out, it demonstrates "the beauty, finiteness, fragility, and interconnected unity of the Earth." Scientists and other intellectuals who write from the "spaceship Earth" perspective are in the forefront of the country's environmental movement.

Just as important, when taken with the spreading conviction that modern weapons can obliterate literally the entire planetary ecosystem, the image is used to underscore the need for a peaceful and cooperative relationship between different human societies sharing the globe. An emerging school of thought promotes "planetary, not bloc, thinking" which "can rise above today's problems and look at the planet through the eyes of an Earthman" (Lomeiko and Gromyko, *New Thinking for the Nuclear Age*, Moscow, 1985). This is a significant improvement on the more orthodox Communist line which lays stress upon the historically determined conflict between capitalism and communism. The new school writes and thinks from the point of view of "we, people of various nations and convictions" who "are united by the feeling of belonging to our common homeland, the Earth."

The whole Earth perspective in the Soviet context, expressed verbally or pictorially, far from leading to "extreme alienation from the Earth," on the contrary signals a desire for a peaceful, caring, and harmonious approach to relationships with nature and with other societies.

Jean McCollister
Oxford, Great Britain

Going broke overseas

Having been a world wanderer (13 months in Central and South America, Africa) as well as Peace Corps Volunteer (two years in South Pacific), and now working with a multi-national, I *had* to say something on the matter of Will Cantrell's article "How Professionals Find Real Overseas Jobs" (*WER* #47, p. 72).

Paying taxes overseas is very complicated. Even if you are entitled to tax-free earnings you will certainly be required to file with the IRS. They, not you or your employer, will then determine which income is taxable. During your first year abroad you will probably not pass the physical residence or the bona fide residence criteria and will be subject to taxation in the United States. You may be able to credit taxes paid to a foreign government, but you will have to prove that foreign taxes were paid. This may be a double-edged sword, as foreign taxes are brutal compared to U.S. and an expatriate can easily be taxed 50 to 65 percent of their income. Both the IRS and the foreign equivalents look at your total income, housing, premiums, education allowances, plane tickets, plus salary, so the $80,000 eligible for tax exemption suddenly looks small. A young expat with a base salary of $26,000 may easily have a taxable income of $120,000.

People should not go overseas just for the money. If your prime motivation is the tax-free income you are a mistake waiting to happen. Given the mind-boggling language and cultural barriers, frequent home-sickness, and the assured fact that you will be transferred just when things are finally familiar and you have real bonds with persons and places, the financial rewards will never seem to justify the inconvenience.

My advice if you have some skills, and especially if you do not, is to volunteer your services to a region you care about through government or private institutions. Volunteers are always tax exempt, and the experience will probably be just as good as working for a big multi-national, maybe even better.

Lawnin Crawford
Bangkok, Thailand

Artists needed for hacking

I enjoyed your cover article on digital retouching. As a commercial photographer doing some advertising work, the issue is a hot one. Advertising agencies have recently been trying to play hardball on getting all rights and copyrights when they hire photographers for a job. The feeling in the photo trade is that they are trying to get a library of shots. In a few years they will then be able to assemble any shot they want for advertising, without hiring a photographer, thus keeping all that profit for themselves. (Check out the newest Chevy catalog for their Suburban wagon. The cover shot is an assembly of a photo of a ridge house and a photo of the wagon on a beach.)

One thing that is going to keep them from doing this is illustrated on your cover: the people who are now running the digital retouchers are technicians and not artists.

You went to a whole lot of trouble to make up the cover, but to my eye it was an obvious fake. The reason? You forgot about *aerial perspective*. Aerial perspective is one of the visual clues that tells you how far away an object is. The further away something is from you, the more haze the light from that object has to go through before it gets to your eye. So . . . you can see less detail on objects that are further away.

Look at your cover. The Transamerica building is greyed-out, bluish, and without fine-line detail. Look at the furthest "saucer." It is as sharp as the closest one: an obvious fake.

Sooner or later artists will be running the machines instead of technicians: that's when we should all worry.

Peter Jones
Boston, Massachusetts

Evidence of digital retouching

Your story in the July *WER* about digital retouching reminded me of an amusing bit of retouching I noticed a while ago — digital or otherwise, I wouldn't know. Exhibit A: The Opus Computer Products ad that appeared, among other places, on page 62 of the January 1985 *Creative Computing*.

The model's forefinger and thumb are mashed directly over the access slot of the floppy disk (assuming it's double-sided); she's squeezing the disk media itself. If it once was, as Opus advertises, an "unfloppable floppy," it isn't anymore.

Exhibit B: *Creative Computing*, June 1985, page 80. Another Opus ad, different copy, same photo. The facial expression, the drape of the hair and clothes — everything's identical — except she's holding the disk safely by the envelope! Cancel red alert. Now there's nothing preventing the average (read: male) microcomputer user from observing the way the model's T-shirt accentuates her boobs, which presumably was the idea all along.

Richard S. Holmes
Beltsville, Maryland

Good guys vs. good guys

I found the Muirs' article, "A Tale of Ice and Wild Dogs of the Sea" (*WER* #47, p. 4) to be fascinating and convincing. Then I had second thoughts. In this particular case the environmentalists have gone beyond reason and the local hunters are right. This rests on the fact that the seals are not being hunted to extinction. But suppose they *were* being hunted to extinction; would the lifestyles and attitudes of the hunters be any different? I think not. The people who take more resources than the earth can regenerate are almost always "good guys" who do it for reasons ranging from hunger to profit.

The main arguments seem to be that the sealers are good guys and their opponents are former good guys. Fair enough. But why *feature* a very effective propaganda piece for "developers"? A modest article to set the record straight for the sealers would have been more appropriate.

John E. Brown
Arcata, California

Old matchbook trick

I have been tossing those whimpering pictures of baby seals in the wastebasket for years, and every time I get to toss one out I growl at Greenpeace for wasting their time and money on such sentimental misdirected slop when they could be doing a lot of powerful good work.

Sometimes they lapse into reason (then I send money) or direct action like ramming (too lightly) a whaling ship, and again I send money. But every crying baby seal I get, I wish they would channel their energy into creative anarchy or something more productive.

Anyway, thanks for the splendid article, ("A Tale of Ice . . . ," *WER* #47, p. 4). I hope it rocks half your readership back ten steps, and I hope you survive the massive dose of " . . . so cancel my subscription and crawl into your personal computers you bums . . . " which you may be getting.

On the other hand, I think publishing appealing little teasers like 'how to make a time-delay igniter' was irresponsible, deliberately inciteful, and maybe even immoral. I think your image will suffer in a lot of places where it was pretty good; I think a lot of otherwise straight people who have been paying attention to your magazine will now pay less.

Anyway, even non-smokers can use the cigarette in a book of matches trick we all learned from the movie *Stalag-17*, and it works like a charm.

Joe Weisman
San Francisco, California

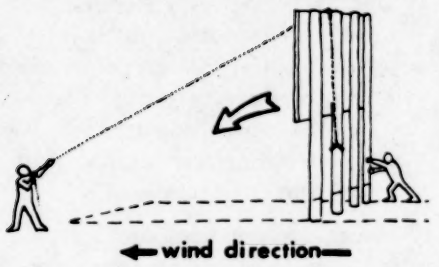
Seals, fish and facts

The Muirs utterly confuse what you call "toxic environmentalism" and concern for the welfare of animals as such ("A Tale of Ice and Wild Dogs of the Sea," *WER* #47). Then, in their concern for the *human* Magdalen Islanders they uncritically repeat a myth that has been assiduously propagated by the Canadian Department of Fisheries and Oceans in defense of the commercial hunt of the aboriginal islanders — the seals themselves. This is that "the harp seal hunt is the most regulated fishery in the world and the herds are recovering." This is simply nonsense. Management has been abysmally poor, monitoring practically non-existent, and there is — despite diligent search by defenders of the *status quo* — no evidence at all that the seal populations are now increasing. Your authors should pay some attention to the independent evidence being given to the Canadian Royal Commission on Seals and the Sealing Industry.

Yes, it is "common sense" that if seals eat fish then they are harming fisheries, and in particular are hindering the recovery of fish stocks that humans have depleted. It is nevertheless quite untrue. *All* the many biologists that have looked into this question, whether they are personally for or against the hunt, whether they are employed by the Canadian Government or are independent, are agreed on this point — there is no rational basis whatever for "culling" harp seals to improve fisheries. The reasons for this are not difficult to explain but *WER* is probably not the place to expound them. In any case the Muirs would not want to learn; it is painfully evident that, in attacking the emotionalism of the anti-hunt

protesters, they simply substitute another form of emotionalism. What they write is deeply irrational.

Sidney Holt
Rye, Great Britain



Who's next?

Do the people who do damage then give me permission to arm myself? I know some hard-core right-wing survivalists who say yes. I also know some left-wing environmentalists who say yes. I think they say yes because they hope I will be a pacifist at heart or a bad shot. What if I am not a pacifist? What if I am a very very good shot? What if a bunch of monkeywrenchers mistake my car for one of their enemies' and I find myself surrounded by a bunch of strange men — and they find themselves full of lead? Who picked up the gun first? Who gave the other permission to shoot?

Just imagine — a group of cheerful men and women home from a night of destroying the property of the enemy??? Now, let me list the possible enemies and see what you think. Don't cheat, now . . .

People who allegedly are making weapons (you haven't seen the weapons yourself, but your best friend says they know someone who did).

People who allegedly work for a plant that allegedly makes weapons.

People who represent a PR firm for a company that makes defoliants.

People who write newspaper articles supporting oil developments in sacred Native American lands.

People who belong to suspicious political groups.

People who publish evil magazines.

People who work for evil magazines.

People who buy evil magazines.

People who are heard to support the work of evil magazines.

Who do we agree not to have permission to harm — either personally or through their property?

My father was one of the best forensic pathologists in the country. Fifty years of experience, an IQ of 190, and an unfailing honesty in his work taught him to expect the unexpected. I asked him once about the law. He said it was there because people made mistakes — he would then cite case after case where, except for some extra careful work on the part of some skilled scientist, an innocent person would have been convicted of murder. Re the woman with the baby with no brain — and I assure you, he had seen much worse — he would have asked many questions: how do you know it was Agent Orange, how many other people were involved, what do you mean no brain, who else was affected, and so on, and in his maddeningly methodical way he would have researched his way to a probable cause. If there was a guilty party, he was not above pointing a finger, based on hard fact and demanding action. He once threatened to bring charges against the road commissioners in our state because of a death that occured at a bad corner with no light — not civil charges, mind you, but charges of manslaughter. He wasn't a sissy, he hated institutions and bureaucrats, but he respected people one at a time. Also, after 10,000 autopsies and 35 years of testifying in court, he was careful about the truth.

Pat Wagner
Denver, Colorado

Heed Nicaragua's achievements

I have been to Nicaragua, and can only stand in amazement at the shallowness and insensitivity of your reporter. Five beers a day. "Rinky-dink," he says, dismissing Nicaragua's incredible achievements: the elimination of starvation and preventable disease, the establishment of literacy, land reform: all accomplished by 3 million ragged, weary and torn souls in the teeth of a sophisticated technological war waged from across the border by the hired killers of a 230-million strong giant. "Rinky-dink." It's not "L.A." enough for him! Perhaps he missed a few of the things I saw: *Romeo and Juliet* free in the parks, played in Spanish, translation by Pablo Neruda. Perhaps the house-band of blind musicians at the *Casa de los No Velidos* (House of the Blind, where the sightless of Managua are taught to weave and throw pots) did not play for him. Or perhaps they did, but he had passed out.

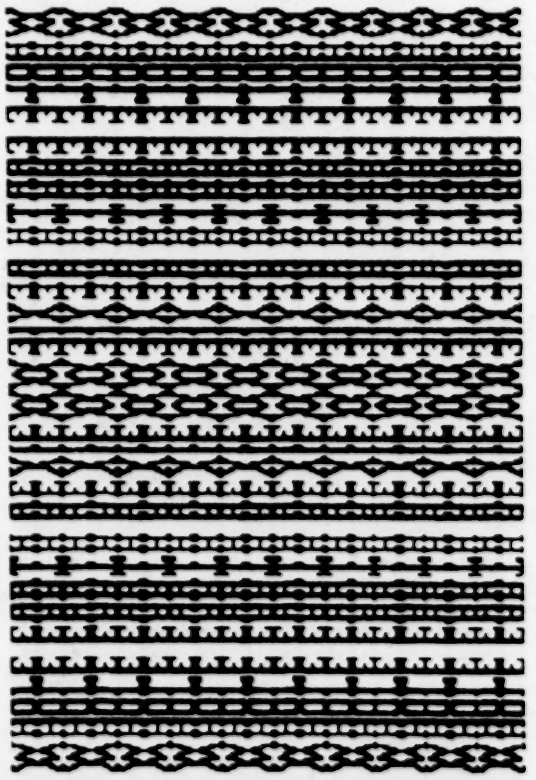
And finally, the *Miskitu:* for all its faults, Nicaragua's policy towards its Indians has got to be the world's most enlightened. (Nicaraguans are mostly — 68 percent — of mixed Indian blood.) First, the unhappy attempt at relocation, *instead of genocide*, which was the policy of our nation (ghosts of the vanished Wappo of Mendocino, beat your drums). Then, complete amnesty. And now, autonomy. Tell our Navajo and Hopi, now alternating between massive unemployment and forced labor in the radiation mines, and faced once more with forced relocation, now that the Pentagon has discovered "Geiger gold" beneath their desert refuge: tell *them* about the "injustice" of free medical care and schooling, housing, amnesty, and, now, autonomy! (Beat, beat, drums of the Pueblo, of the Oglala, of the Trail of Tears.)

Eric Park
Alderpoint, California

Carpet bizarre

I was tinkering with the symmetries potentiated by MACPAINT, and came up with a satisfying composition wherein the form illustrated the content, i.e., the word "symmetry" was reflected symmetrically and then repeated up/down and across the page, yielding a Navaho-esque pattern. (I began to wonder if my Navajo rug carried a message when turned on its side, something like "Pow-wow at Leaping Lizard's next Saturday." So turn yourself or the pattern below 90 degrees and see if you can find the familiar.

David Theis
San Francisco, California



GATE 5 ROAD

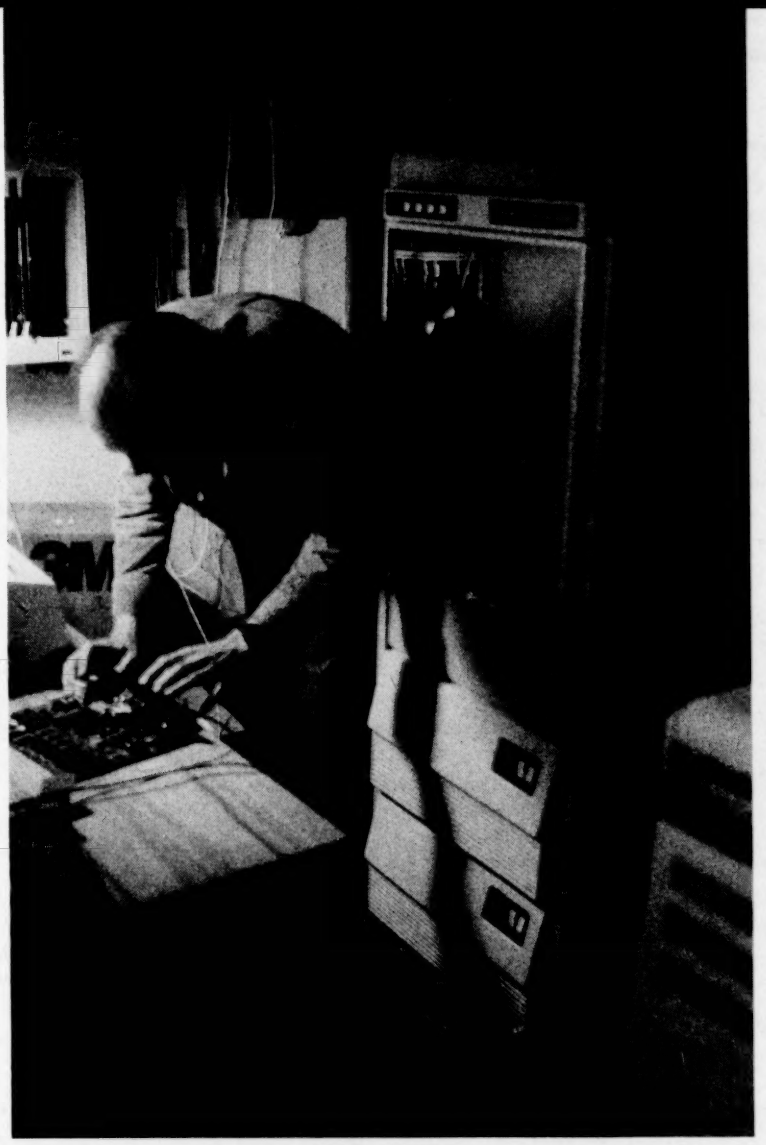
Gossip

STEWART BRAND: It's as if this magazine has been quarterly for so long (ten years as ***CoEvolution Quarterly****) that it can't break the habit. With this issue we're back up to 144 pages per issue (from 104 pages in the last four bimonthly issues) and back down to coming out every three months. For now we can't afford coming out bi-monthly — it's too many mailings, color covers, print bills, etc. We can afford being quarterly, so we'll maintain this way until we get more revenue from extra subscribers or there's cash surplus from other Whole Earth activities. Among the rationalizations was heard: "You know, I don't think anything in nature is bimonthly." (A lady with one ovary, in case somebody has a smart remark ready, is just as monthly as the bi-ovarian.)*

Another reversion: we're reinstating "Unclassifieds." Same rules, same tiny print (see box, p. 141). Send in your words and 75 cents for every word you want printed, and they'll be published in the next ***Whole Earth Review****, in the order received — early ads on top.*

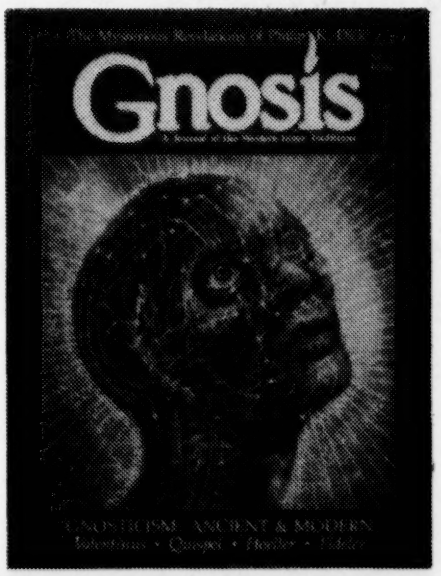
Computer stuff continues to be in the thick of our activities; there's less of it in this issue partly because of that. We've just completed the second ("2.0") edition of the ***Whole Earth Software Catalog****, a behemoth task, and we're computered out for now. Barbara Robertson (Editor and Research Director), Lyn Gray (Managing Editor), Cliff Figallo (Researcher and Type Liason) and Jim Stockford (Researcher) surpassed themselves. The result, besides being comprehensively up-to-date, is an improvement over last year in every department. Bookstores should be getting copies from Doubleday by late September.*

If our publishing has become less frequent in one area (here), it's becoming more frequent in another. Our regional teleconference system called The WELL has an hourly, daily, weekly frequency, depending on how often its members check in on it. In addition to the expectable electronic mail, teleconference conversations endlessly convoluting, etc., we're trying real publishing — books online before they're in bookstores, parts of magazines (including this one), whole magazines (such as the San Francisco Bay Area's biweekly ***Computer Currents****). A new, fascinating, problematic medium. As our weekly newspaper column in the San Francisco* ***Chronicle*** *does, the WELL is showing signs of feeding good ideas and information into* ***Whole Earth Review****.*



WELL system operator Matthew McClure looks at one of the Visionary modems in the computer room in Sausalito. In the foreground is the VAX minicomputer that houses the WELL — 800 megabytes of online storage.

In other publishing news, frequent Whole Earth editor and paste-up trooper Jay Kinney has commenced his own magazine. Called ***Gnosis****, it's subtitled "A Journal of the Western Inner Traditions" ($15/four issues from: The Lumen Foundation, P.O. Box 14217, San Francisco, CA 94114). The first issue, on "Gnosticism: Ancient and Modern," is available for $5 postpaid.*



On the principle that all founders become flounders, I'm taking a year's break from running this show and sallying forth to be a contributor for a change. I expect to be writing from Africa and Latin America and who knows where else. This "Whole Earth" editor/publisher has barely been out of Sausalito since 1973, and it shows, in me and in the magazine. For proof I give you the control results: the last five issues of this magazine, edited by Kevin Kelly. With each issue the horizons have been wider, the research more exploratory, the texture finer.

Kevin wandered the world for ten years; I've been nine-to-fiving. His intelligence is feral; mine's domestic. I'm going back to the woods, see if hair grows back along my spine and my teeth grow out in their old curl. First stop is East Africa for a couple months, swapping homes — our tugboat in Sausalito for their 20,000-acre game ranch. After that I'll be moonlighting in other places and other lines of work. Suggestions welcome. I'll be in and out of the magazine, in and out of town, but Kevin's minding the Point Foundation store this year. It couldn't be in better hands. ■

Why we have a new subscription address (sub drama synopsized)

Most magazines, including us, farm out subscription chores to companies optimistically called "fulfillment houses." These agencies do everything from opening mail and cashing checks to maintaining computerized subscriber files and sending renewal notices. Most of this work is boring, repetitious, and unending for the low-paid employees doing it, so a few screw-ups are understandable.

But last year the situation came unglued. "A few screw-ups" became a feckless, gremlin-infested operation frustrating us and our readers. Software Catalogs were sent agonizing months late, large sums of money were misplaced, and our cherished privacy codes that protect you recluses from junk mail were violated. All this was happening while we were merging CQ and the Software Review, a lumpy process in itself. If you thought you noticed a decline in WER sub service, you were right.

Every month brought a new disaster, and as problems multiplied, so did irate letters. Reading and dealing with reader irateness, not to mention picking up the vibes, was a real frustration, because we were catching the flak for the mess but couldn't make the necessary repairs in someone else's system. Realizing that our once-orderly subscriber file was being converted into a can of worms, we decided we had no choice but to change fulfillment houses. We're now in the middle of that operation.

So now there's a new address for all subs:

Whole Earth Review
P.O. Box 15187
Santa Ana, CA 92705-0187.

It will appear on your next renewal notice. But all sub problems should be sent here to Sausalito where we'll be keeping the sharpest of eyes on the transition.

While we're discussing subscriptions, let's review rules. They apply to all magazines. (For more on being an effective customer, see Paul Hawken's "You Are the Customer, You Are the Company," p. 10.)

1. Always keep your cancelled check.

2. If anything goes wrong, send a Xerox of the cancelled check and a clear description of your dilemma, i.e., what you ordered and what, if anything, you got.

3. If you're moving, send us your new address *before* you move, not months later. We're responsible for sending the magazine, but you are responsible for telling us where you live. The P.O. often *doesn't* forward mags, regardless of what they're supposed to do.

4. Be gentle.

So if you were one of those who wandered into the giant snafu, we apologize. Every drama is here to teach us; for me it happened while observing my reaction to each new letter. I'd cringe before opening the envelope while preparing for another blast of bad vibes, and noticed that if it began with "you assholes . . ." it received the minimum necessary response. But those gentle souls who remained calm and coherent received first-class treatment and the benefit of any doubt. There was indeed a principle being demonstrated: Vibes Out = Vibes Back. When people transmitted anger I wanted to return it, but when a little warmth came in I went way out of my way to assist. We're each a mirror for each other, yes?

r. fugett
general purpose clerk

Back Issues/Further Issues

The quickest way to order back issues of this magazine is not from us but from Whole Earth Access (see address below). Each ***WER*** back issue is $3, postage paid. ***CoEvolution Quarterly*** issues are $3.50 each, postage paid, or $10 for four. All 29 available **CQ** issues are sold as a set for $35, postage paid.

Subscriptions to ***Whole Earth Review*** are $18 for one year (4 issues) and $33 for two years (8 issues). Foreign rates are $22 for one year and $41 for two years. Send your order with payment to: ***Whole Earth Review***, P.O. Box 15187, Santa Ana, CA 92705.

"Or Whole Earth Access"

That phrase under access information in the ***Whole Earth Review*** means you can mail order the item from the Whole Earth Access store. *Do not send orders for books to* ***Whole Earth Review***. Send orders to:

Whole Earth Access
2990 Seventh Street
Berkeley, CA 94710
415/845-3000; 800/845-2000

Add $2 per order.
Rush orders U.P.S. (Continental U.S.): 40 cents additional charge per book.

"Or Computer Literacy"

That phrase means you can order these items from Computer Literacy, a bookstore specializing in computer-related books. Send orders to:

Computer Literacy
Bookshop
520 Lawrence Expressway
Suite 310
Sunnyvale, CA 94086
(408) 730-9957.

Add $1.50 for one or two books.
Orders sent by U.P.S.

For Both "Whole Earth Access" and "Computer Literacy"

Foreign orders (surface mail):
Add $3.50 per order for insurance if desired. Pay only in U.S. funds drawn on a U.S. bank.

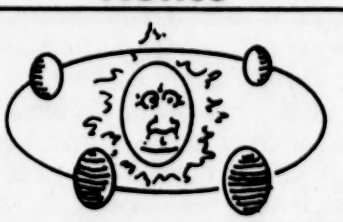
California delivery:
Add 6% tax (BART counties add 6½%).
VISA/MasterCard orders accepted.

Abbreviation Glossary

As ***Whole Earth*** *progeny proliferate, a roll call of nicknames used in this magazine may help to keep them straight:*

NWEC:	*Next Whole Earth Catalog*	***WER:***	*Whole Earth Review*
CQ:	*CoEvolution Quarterly*	***WELL:***	*Whole Earth Lectronic Link*
WESC:	*Whole Earth Software Catalog*		
WESR:	*Whole Earth Software Review*		

Notice



Whole Earth Review *has reverted to a quarterly publishing schedule. A new magazine will be issued every December, March, June, and September, a few weeks prior to each equinox or solstice.*

UNCLASSIFIEDS are back

Whole Earth Review *is reinstating the UNCLASSIFIEDS, a reader-to-reader service available to* ***WER*** *subscribers only. They're designed to provide a cheap communications network for* ***WER*** *readers and mild financial assistance to the magazine.*

To advertise, you must be a current subscriber (please send a recent mailing label from the cover of the magazine when you send in your ad copy). The first few words in your ad will be in all capital letters (we cannot do any other words in all-caps — they take up twice the space.) Rates are 75 cents a word. You count them and send us payment with copy: we will not bill. Payment must accompany copy and be in U.S. funds drawn on a U.S. bank. Your address must be included in ad copy, as we will not forward replies. To run a repeat ad, multiply your ad payment times the number of issues you want the ad to run. Send in that amount and we will print the same ad that many times. If you decide to repeat your ad after it has run or you wish to make a copy change, you must re-submit the entire ad.

Deadline is September 16 for the Winter issue; December 9 for the Spring issue. Sorry, we will not take ads over the phone. Ads received after the deadline will be held for the following issue.

We print ads in the order received. "UNCLASSIFIEDS" means "no categories." ***WER*** *subscriptions rates are $18/year ($22/year foreign and Canada). Please add this amount if you are not currently a subscriber. Order forms for subscriptions are at the back of this magazine. Mail ad and payment (made out to* ***Whole Earth Review****) to* ***Susan Erkel Ryan, WER UNCLASSIFIEDS,*** *27 Gate Five Road, Sausalito, CA 94965.*

Whole Earth Review Update

KEVIN KELLY: Michael Philips (***Seven Laws of Money, Honest Business***) was coauthor with Robert Gnaizda of "A Juvenile Democracy" (frontispiece last issue), though we inadvertently omitted this information. The New Zealand book ***Kiwifruit Culture***, reviewed in ***CQ*** #43, p. 65, now has a more accessible American distributor: agAcess, Vacaville, California. See p. 62 this issue for their address. For "How Professionals Find Real Overseas Jobs" last issue (p. 72), there are two additions. If you couldn't find the ***Directory of American Firms Operating in Foreign Countries***, it's because it is currently titled ***U.S. Non-Profit Organizations in Development Assistance Abroad***, ISBN #0-932140-02-5, available from UNIPUB, P. O. Box 1222, Ann Arbor, MI 48106 for $27 postpaid. The overseas placement firm SHS International mentioned in the same article has a new address: 706 Pine St., #A-5A, Herndon, VA 22070. The Omni-Reader mentioned on p. 57 has had a price change, from $499 to $799.

Point Puzzle Answer

The answer to the Point Puzzle (***WER*** #47, inside back cover) is spelled out by the first three sentences of the text on p. 5, "Biting the Hand that Feeds," in the "Computers as Poison" issue (***WER*** #44).

•

POINT FOUNDATION BOARD

Paul Hawken, Huey Johnson, Doug Carlston, Martin Rosen, Stewart Brand

Newsstand Consultants: **David Maisel, Howard Eisenberg.**
Mailing Services: **American Press, Columbia, Missouri; Publishers Aide, San Diego, California.**
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WHOLE EARTH Review

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Point/Whole Earth Consolidated Report March and April 1985

Income		Expenses			
Subscriptions & Renewals	64,579	Salaries:		Telephone/Networks	5,240
Back Issues	658	Editorial	22,182	Postage	1,554
Mailing List	16,235	Production	12,913	Auto/Travel	115
Software Catalogs	3,144	Circulation	6,748	Promotion/Publicity	535
Direct Distribution	10,633	Office	7,389	Building Rent/Maintenance	
National Newsstand	13,845	Research	10,267	Utilities/Moving	22,787
Syndicated Column	5,220	Payroll Taxes/Benefits	10,430	Legal/Professional	10
NETI/WELL	13,450	Writers/Contributors	8,050	Interest Bank Charges	1,603
Best of CQ	0	Supplies/Research	5,698	Miscellaneous	
Contributions	566	Magazine Printing	30,498	Operating Expenses	-154
Interest	1,586	Subscription Promotion		Purchase Assets/Principal	
Miscellaneous	338	and Fulfillment	13,867	on Lease Payments	1,241
		Direct Distribution	1,278		
Total Income	**130,254**	National Newsstand	5,378	**Total Expenses**	**183,744**
		Mailing List Fulfillment	913		
		Software Catalog Fulfillment	9,686		
		Syndicated Column	3,586		
		Best of CQ	1,130		
		Equipment Rent/Maintenance	800	**Profit/Loss**	**-53,490**

WEAL
(Whole Earth Access Link, a joint venture of Point and NETI)

Income		Expenses	
NETI Advance	40,000	Operating Expenses	28,735
WELL	0	Purchase/Assets	1,783
Total Income	**40,000**	**Total Expenses**	**30,518**
		Profit/Loss	**9,482**

Thank you

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The Retaining Subscriber list includes only those who became retainers since the last issue, as of 6/19/85. Retaining and Sustaining Subscribers get your magazines in an envelope, delivered first-class or airmail, for one year. Maniacal Subscribers get your magazines in an envelope, first-class or airmail, for the rest of your life (or ours, whichever comes first). For all three, we gratefully publish your name and town in the magazine (unless you say not to).

All contributions are tax-deductible because we're a nonprofit foundation.

CLIP HERE. MAIL IT RIGHT NOW.

SURPRISE YOUR FRIENDS

If you have friends who are always borrowing your ***Whole Earth Review*** (and returning it dog-eared, if at all), get them gift subscriptions.*

They'll appreciate having their own copies, you'll take care of your holiday shopping before the crush, and we'll have the new subscribers we urgently need.

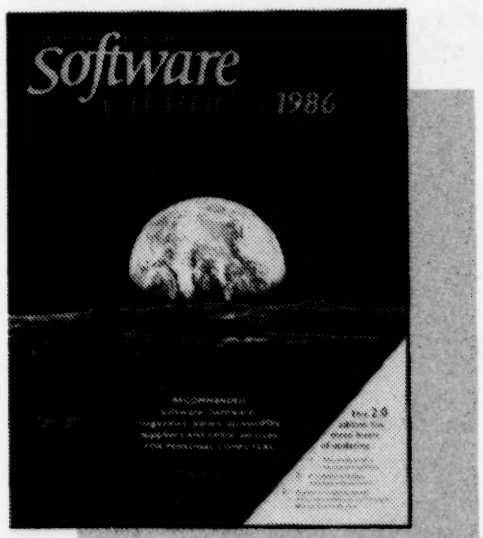
* Typesetter's note: if your friends return your ***WER*** promptly and in perfect condition, you are still welcome to give them gift subscriptions. How about two apiece?

ORDER YOUR GIFTS TODAY

Gift cards will be sent to your donees in early December, or upon receipt if we get your order later. Gift subscribers will get their first issue in early January.

Subscriptions are $18/year (four issues).

A GOOD BOOK GETS BETTER



Save $2.50 off the $17.50 cover price:

$15 postpaid.

Trying to find a computer book that is practical and interesting is a challenge. The ***Whole Earth Software Catalog 2.0*** is both. Completely updated since last year, the 1986 edition reflects two and a half years of research. New items are highlighted and old veterans have been reevaluated and re-accessed. Of the 473 items recommended in the second edition, 207 are new.

Also new this year is "street price" — the discount price of an item is given. Along with the list price, this is valuable information to have when you're shopping.

Here's what people said about last year's ***Whole Earth Software Catalog*** (The 1986 edition is even better):

"Through anecdote and opinion ***WESC*** intelligently identifies the best of what's available."
—Robin Raskin, *PC Magazine*

"Unlike most people who write computer books and magazines, Stewart Brand and his collaborators haven't lost their command of that great preprogramming language, English. They write with grace and wit." —Adam Hochschild, *Mother Jones*

"If you own a computer or are thinking of owning a computer, I cannot think of a better place to invest $17.50 than in this book."
—Peter McWilliams, author of *The Personal Computer Book;* syndicated column

"The ultimate software guide."
—Steven Levy, *Rolling Stone*

WHOLE EARTH Review

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SUBSCRIPTIONS:	U.S. Surface	Canadian/ Foreign Surface	U.S./Canada 1st Class	Foreign Air
1 year (4 issues):	$18	$22	$25	$34
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WHOLE EARTH Software Catalog	$15	$16	$18	$23

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If this order is for yourself, please fill in the following information:

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TOTAL PAYMENT (check or charge): $ _____

All orders must be paid in U.S. funds, drawn on a U.S. bank. Allow four to six weeks for sub delivery. Catalogs will be shipped in mid-October.

Please charge to my ☐ Visa ☐ MasterCard Account number _____

Expiration date _____ Signature _____

CLIP HERE. MAIL IT RIGHT NOW.

A REQUEST

WHOLE EARTH REVIEW

is published by Point, a nonprofit foundation.

We do our best to be a self-sustaining magazine. As any reader of our financial statements (openly published at the end of each issue) knows, this magazine loses money each issue. We have survived for 11 years because of the cornucopia of other projects like the ***Whole Earth Catalogs*** and ***Whole Earth Software Catalog***, and because of significant contributions from readers. Not least among those are 25 lifetime Maniacal Subscribers, and a host of Sustaining and Retaining Subscribers.

It's time for us to solicit money to continue publishing. Public television regularly, and unapologetically, fundraises in order to operate each year. Now, for the first time, we are asking for contributions in order not to close down.

There are several ways you can help us ensure that the eccentric, co-evolutionary ***Whole Earth Review*** continues to enliven the world:

★ Extend your subscription now, even if it isn't ready to expire. This gives us urgently needed cash now.

★ Give a couple of gift subscriptions. Your friends gain; we gain.

★ Become a Maniacal ($1,000), Sustaining ($100), or Retaining ($50) Subscriber if you aren't. All contributions are tax-deductible.

★ Place an Unclassified ad at 75 cents a word.

★ Send a contribution to Point, a nonprofit foundation. Your money will be used in two ways:

1. To pay off an immediate print bill of $30,000, to cover us through the lean time until the holiday renewals come in.

2. To seed a $100,000 fund that will be used to boost circulation by direct marketing. Raising our circulation is the only way we can survive as a self-sustaining publication.

We currently have 23,000 subscribers. If everyone sent in $3 we'd have what is needed to print the next issue, and enough to continue the reorganization of our financial methods. If 69 people sent in $1,000 apiece, we'd have the same, as well as 69 new Maniacal Subscribers who would receive a lifetime subscription to ***Whole Earth Review***, mailed first class.

If you'd like to help keep the unique voice of the ***Whole Earth Review*** (a.k.a. ***CoEvolution Quarterly***) alive, then please contribute today. Without Whole Earth there would be no magazine to print a poem to elephants and book reviews about cybernetics, kayaking, and home schooling. There'd be no one place for R. Crumb cartoons and stories on autopsies, debates on space colonies, and sensible software reviews. There'd be no place for the only general-interest magazine in America not constrained by advertising.

Keep ***Whole Earth Review*** going. It's your magazine. We need $30,000 immediately. All contributions are tax-deductible because we are a nonprofit foundation.

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PUMPKIN HEADS

All these pumpkin heads were sculpted by semi-professional pumpkin carver Hugh McMahon, who whittles Jack-o-lanterns (or Ronnie-o-lanterns) for restaurants, clubs, and TV stations. He starts with the best grade of pumpkins and digs into the outside rind with an X-Acto knife: the deeper it goes, the lighter it shows. Once he has the rough features cut, he inserts a glowing light bulb inside and carves the rest in the dark.